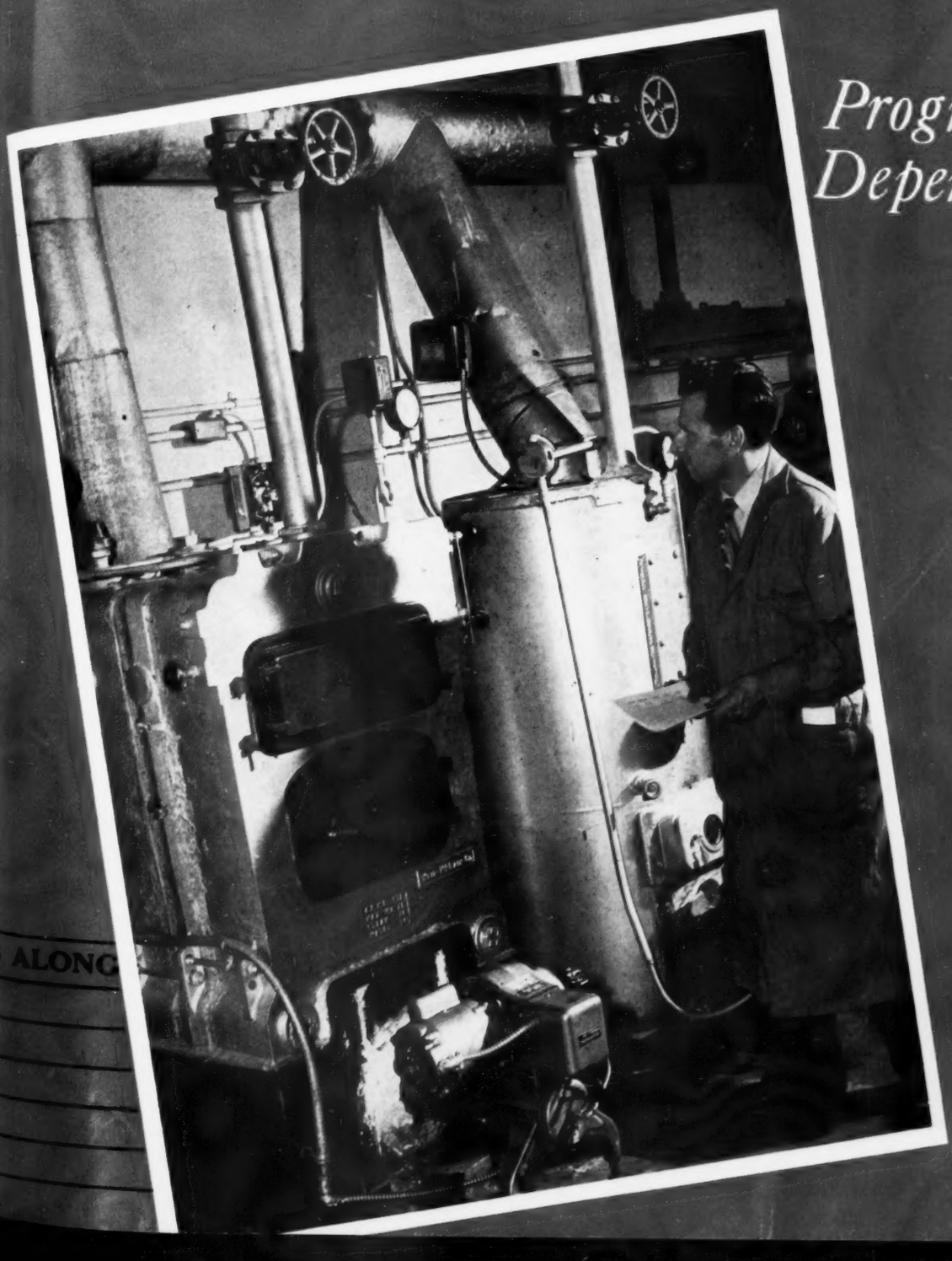
JUNE
1955

fueloil & oil heat

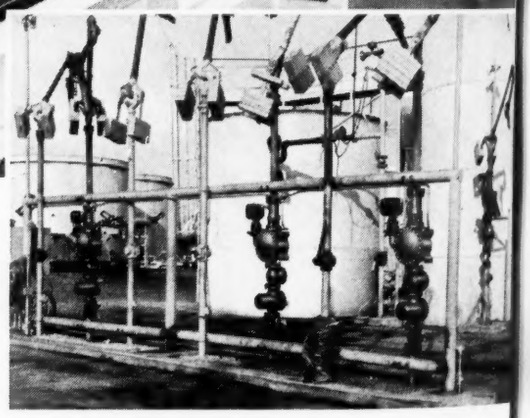
UNIV. OF MICHIGAN
JUN 13 1955
EAST ENGINEERING



Progressive
Dependable

Centralized ...with BRODIE REMOTE COUNTER METERING SYSTEM

"in-the-office" RECORD CONTROL of loading operations



New modern Sun Oil Company terminal at Toledo, Ohio, employs 20 Brodie Remote Counter Systems with Brodimatic Printing Counters in central dispatcher's office (above), directly connected to 20 Brodie Meters with large numeral easy to read Brodimatic Counters on loading racks (right).

Brodie Remote Counter Systems provide the latest, most efficient method of controlling loading operations and accounting records from within a central dispatcher's office. Tickets are printed on remote direct reading printing counters protected from outside weather conditions, providing ease and efficiency in record handling. Costly errors and delays are avoided. Inside counter provides positive, unerring duplication of outside meter reading. When considering a modern system for metering, recording, and "in-the-office" remote control of truck loading operations, investigate Brodie BiRotor Meters and Remote Counter Ticket Printing Systems.

- **Centralized recording and accounting**
- **Optional built-in control of shutoff valves, pumps, etc.**
- **Compact explosion-proof transmitter mounted on meter housing**
- **Remote counter fully synchronized at all speeds**

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REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

JUNE fueloil & oilheat 1955

VOLUME 14 NUMBER 6

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Among other things . . .

Of special significance in this issue is the short article by Irwin Jalonack telling why builders can do better if they adopt oilheating for their houses. The writer has had long experience in the field as vice-president of Levitt and Sons, and this is the first of a series of articles he is writing for us on the new home market.

Then the New England show to be held the second week in June is quite important because it is the only oilheating exposition in 1955 East of the Rockies. The New England copies of the magazine carry a special 20 page supplement built around the show.

The article on long-range weather forecasting is noteworthy because it reports considerable progress in attempting to forecast a six-month period which is essentially the whole heating season.

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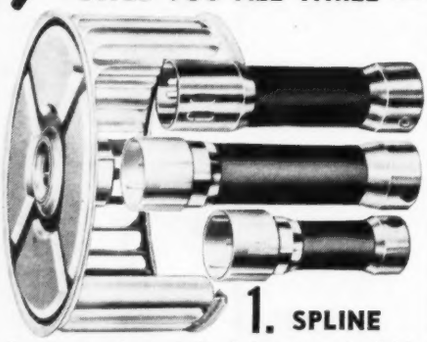

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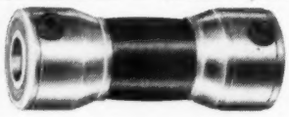

Ultimate to correct misalignment — Furnished in 1/6 to ¾ HP ratings for Oil Burner Requirements.

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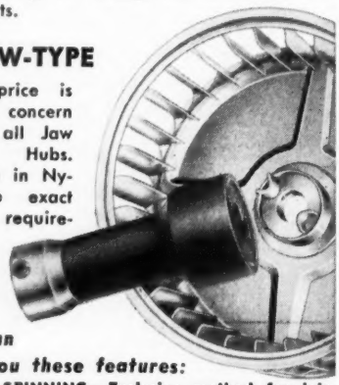
Where price is of prime concern — Fits all Jaw (Lovejoy) Hubs. Available in Nylon to exact length requirements.



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Names in the News

Charles H. Burkhardt has joined Oil Heat Institute of America, Inc., New York, as national secretary of its Distribution Division, replacing Fred Burroughs who left to become associate director of Oilheating Market Reports. Burkhardt previously had been general manager, Paragon Maintenance Co. and before that was associate editor, FUELOIL & OIL HEAT, and heating editor for Scott Publishing Co. His connection with the oilheating industry started in 1938 with Concord Oil Corp. During the intervening years Burkhardt has been associated with New York's YMCA Trade and Technical Schools as an instructor, with Perfex Corp. as director of field education and an industrial specialist for NPA in Washington.

Chester S. (Chet) Stackpole has resigned as general sales manager, Union Asbestos & Rubber Co., Chicago, to become managing director, American Gas Association, New York, replacing H. Carl Wolf, who left because of ill health. Stackpole was with Consolidated Gas, Electric Light & Power Co., Baltimore, from 1928 to 1948. He next joined Chrysler Airtemp as vice-president and general sales manager and in 1951 went to Eureka Williams Corp., as vice-president in charge of the Williams Div. Stackpole had been with Unarco for a little more than a year.

Don Hobbs, co-founder and president, Morton Oil Co., Malden, Mass., was recently honored by employees of the company when he celebrated his 75th birthday and his 32nd year in the oil industry. He founded the company in 1923 and today the organization has oil storage facilities for 1,300,000 gallons, eight oil trucks, and 13 service cars and trucks. Hobbs is one of the oldest members of the Massachusetts Oil Heat Association and has been a director of the OHI of New England for many years.

Drew M. Thorpe has been appointed executive vice president, General Refractories Co., Philadelphia. He was formerly vice president of the firm. Other executive appointments announced by the company: *Lee A. Diehl,* from assistant secretary and treasurer to vice president and controller; *George R. Rittenhouse* to assistant secretary and assistant treasurer.

J. A. Kelley, vice-president, Cities Service Oil Co., (Pa.) has been named manager of all activities relating to manufacturing, operations, supply, traffic, engineering, evaluation and real estate. He has been associated with the company since 1923 and was sales manager for many years. He has been a vice-president and director since 1945. *Edward W. Lang* was named sales manager and will be in charge of sales, sales training, advertising and promotion. Lang formerly was assistant to the vice-president and has been associated with the company since 1931.

Kelley

John M. Wilson has been appointed chief engineer of the development and design division of the engineering department of Minneapolis-Honeywell's

There's a fluid heat unit for every heating problem!

Want high-style units to sell directly to homeowners? Or "frill-free" units for the mass builder market? Either way, you've got 'em both in Fluid Heat! This famous line of top-quality heating equipment includes both gas and oil fired units . . . everything from individual burners to complete boiler units, warm air furnaces and counter-flow units —both floor and suspended models. In sizes for use everywhere—from the smallest homes to the largest supermarkets. And they're all priced *right*, to meet—and beat—your competition!

And a New Air Conditioning Unit!

New Fluid Aire central conversion type unit adds on to any forced warm air furnace. Hermetically sealed . . . extremely compact . . . air cooled. Flexible refrigerant line, connecting evaporating unit to condensing unit, provides for ready adjustable installation. Uses existing plenum and ductwork.

For more information on the complete line, write: *Fluid Heat Div.*, ANCHOR POST PRODUCTS, INC., 6700 Eastern Ave., Baltimore 24, Md.

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"WORLD'S ECONOMY CHAMPION"
Division of ANCHOR POST PRODUCTS, *Inc.*
Sales Offices and Factories: Baltimore, Md. and Red Oak, Iowa

Dispatcher has immediate contact with service men, preventing waste mileage, giving top service.

"Over-all Efficiency Is Up 15-18% with RCA 2-Way Radio"

. . . says Howard Dornbusch — Liberty Fuel Oil Co. Officer

Service men start from home, get orders by radio, and Service Manager is continually aware of what is happening.

At Liberty Fuel Oil Company, Newark, New Jersey, RCA 2-Way Radio is used to dispatch nine service trucks and to provide field supervision control in the Service Manager's coupe. Executive Vice-President Howard Dornbusch, who manages the company, had had experience with radio in Uncle Sam's service and recently, after trying it out in one truck at night with great success, he made the RCA installation.

"We figure our over-all efficiency is up 15-18%," says Mr. Dornbusch. "Drivers frequently save as much as 20-25 minutes on a call. It's a big selling feature for customers, too," he added, "and we figure we pocket at least $1,000 a year on phone calls, in addition to other savings."

Regular office personnel can operate RCA 2-Way Radio . . . just like your telephone. A truck can be reached whether it's moving or parked. Drivers can talk to the office whenever needful. And customers are always enthusiastic about the fast service they get.

Find out what RCA 2-Way Radio can do for your operation in improving service, attracting new customers, reducing waste mileage, cutting costs. Use coupon. To assure satisfactory operation, the RCA Service Company provides installation and service facilities from coast to coast.

For the Best in 2-Way, Say "RCA"

RADIO CORPORATION of AMERICA

COMMUNICATIONS EQUIPMENT **CAMDEN, N. J.**

Radio Corporation of America, Communications Equipment
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Please send me reprint of article, *"Radio Speeds Delivery and Service"*

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____ COUNTY_____

CITY_____ ZONE_____ STATE_____

☐ *Have an RCA Communications Specialist call.*

Brown Instruments Div., Philadelphia, Pa. Wilson joined Honeywell in 1933 and was formerly chief electrical engineer in Minneapolis.

Richard L. Herron and *J. F. Spitzel* have been appointed West Central and East Central district managers respectively for the Air Conditioning Division of American-Standard, New York. Herron's headquarters will be at 816 S. Michigan Ave., Chicago, and he will supervise the following sales territories: Chicago, Kansas City, Minnesota, St. Louis and Wisconsin-Illinois. The sales territories under Spitzel's supervision will be Boston, Buffalo, Cleveland, Detroit, Ohio, Pittsburgh and Tri-State area. His headquarters will be Buffalo.

Frank Tanler has been named to a newly-created position, national sales representative, White-Rodgers Electric Co., St. Louis, Mo. He will cooperate with regional sales managers and devote attention to the individual production and service problems of manufacturers of heating and airconditioning equipment concerning application of controls to their products.

William G. Smith has become national service manager, Union Asbestos & Rubber Co., Chicago, with headquarters at the Greenville, Ill., plant. Prior to joining Unarco he had been district sales manager for the east-central division of Servel, Inc., Evansville, Ind.

Donald S. Smith, president of Perfection Industries, Inc., Cleveland, was awarded one of the ten Horatio Alger Awards presented recently in New York City. A native of Cleveland, Smith started to work at the age of 12 as a delivery boy for a department store. Following his graduation from high school he was hired by Perfection and advanced from a clerk in the cost accounting department to assistant cashier, cashier, chief accountant, assistant treasurer, secretary-treasurer, than vice president and treasurer. In 1948 he was elected executive vice president and treasurer and, in 1951, president and chairman of the board.

Only T & B Baseboard gives you ALL these . . .

- Simplified 4-step installation saves you hours and dollars on every job.
- More Btu's per foot . . . new I=B=R approved ratings save you footage on every job.
- Unequaled, luxurious comfort means lasting satisfaction for your customers.
- Beautiful styling, in the modern manner, by Walter Dorwin Teague.

These add up to more money in your pocket . . . and perfect customer satisfaction.

Your Wholesaler Has All The Facts.
Ask Him Today.

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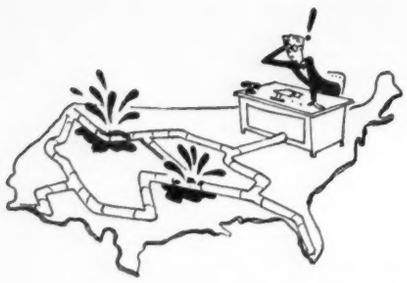
NEW BRITAIN, CONNECTICUT



Editorial Leaks

IN THE MAY ISSUE was a picture story about some of the activities at the Sid Harvey plant. A human interest item not mentioned in this story was the fact that one of Harvey's interests outside of business is the Industrial Home for the Blind. He hired one blind man, Nick Page, who not only earns his wages very definitely but also has been trained to do a dozen different jobs.

Nick comes to work on a bus . . . always manages to arrive in plenty of time. The day of the visit Nick was operating an electric spot welder just as rapidly as anyone could.

One interesting development has been the installation of audible rather than visual gauges for Nick. He couldn't see a dial so gauges have been installed to make a sound rather than requiring the watching of a needle.

The odd angle to this is that when these audible gauges worked so well with Nick the company tried them out on other people with normal eyesight and found that they stepped up production. Folks with good eyes spend too much time watching the visual gauge. With the audible type they go about their work ignoring the gauge entirely until it sounds off.

❖

VISITING Fred Beckwith at his Boston office the other day we asked how the gas campaign in Lowell is making out. Fred's reply was to the point, "Many are cold but few are frozen."

❖

A LOT OF companies in the fueloil business have been conspicuously successful through the years . . . a lot of others have just made a living. As a rule the success did not come through employing cute angles or gadgets but we often notice that these items with a spark are inclined to pop up in the more successful companies.

For example, Buckley & Scott, operating in the Boston market, has its fueloil trucks painted white, or nearly so, to convey the impression of cleanliness in oil heat. The drivers have uniforms in Air Force blue and they are inclined to keep them in fine shape. Each driver has in his cab a box of lollypops, and if there are kids around when he is making a delivery, they are due for a handout.

Naturally, the lollypop distribution often goes farther than just to the children of the customer, and it's a safe bet that the mothers in the neighborhood often have reason to notice these attractive rigs.

❖

PUBLISHERS LIKE to be nice to advertisers because naturally they are very intelligent people. Every now and then, however, something pops into a publication that shows how little the editorial department scrutinizes the advertisements when they put the publication together for the printing plant.

This time it didn't happen in our shop, although in the past it often has. It was a newspaper ad in Springfield, Massachusetts, where the gas company was proclaiming in skillful art and text: "Free survey of your home for gas heat." In the adjoining column, right up against the ad, was a news article captioned: "Gas company sued for $15,000 in explosion." The editor, we understand, will be back from Trinidad fairly soon.

The oil men in Springfield haven't had such a good laugh in quite a while.

❖

WILL PARKER, who runs the North Carolina Oil Jobbers Association, is urging his members to make every effort to fill the fueloil tanks of all customers as this present heating season closes. This has been said many times in earlier years but Will brings it up to date, and it is a good time to say it again.

He points out that in North Carolina toward the close of the heating season a lot of customers are inclined to order a small drop like 50 gallons. Parker emphasizes the advantage of keeping a full tank through the summer to minimize the condensation of moisture which eventually corrodes the tank.

He urges that if necessary the fueloil marketer agree to defer the collection on this tank load until early fall with the explanation that it will cost the marketer no more to store in the customer's tank than his own and then he can fill his own storage capacity that much more while costs are lower.

And while on the subject of Will Parker's bulletins, we had a grin over the one in which he was urging attendance at his spring convention in May at Pinehurst. He admonished the members: "Don't be a delegate-at-large; bring your wife."

❖

IN THIS ISSUE appears the first of "Oilheating Market Reports" from the organization of that same name set up in New York and supported by the oil-supplying companies to survey individual markets East of the Rockies.

These are markets where the local fueloil distributors have cooperative promotional programs for oilheating either under way or planned. The surveys will help the big companies to organize their own thinking on suitable assistance and participation in these programs.

Thus far 21 markets have asked that staff members from OHMR make studies of their cities. In each instance they have a program. The staff can probably complete these studies by early August and then will be in position to make initial surveys in other markets. If you have a cooperative program in progress or if you find enough of your local companies interested in spending money for such a program, you can get a market study made by writing Oilheating Market Reports, 270 Park Avenue, New York 17.

❖

THIS WAS clipped from one of the manufacturer's house organs that come to our desk but we can't recall which one, "Anybody can sweep the floor, count the money or paint the wall; the most important thing is for some lunatic to go out and get the orders."

Bob Gray

A Powerful Talking Point

in any Fuel Oil Sales Plan

You will find amazing appeal for the householder in the automatic features of VENTALARM Signal fuel oil delivery! Over 4500 major and independent dealers have proved this to their own satisfaction.

This year, make VENTALARM Signal the heart of *your* sales campaign. Use its guarantee of clean, convenient delivery in the following specific ways:

1. To convert old customers to a more profitable "keep full" basis.
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3. To gain the favorable attention of prospects.

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Write today for your Free Copy of

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For Tanks in Use
Model LC
with easy compression-fit top

For New Tanks
Model LA
with threaded top

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Over 4,000,000 VENTALARM Signals proven in field use.

Manufactured under full and active patent protection.

Sold through a nationwide network of leading Supply Houses.

Underwriter's Laboratories Listed: VENTALARM Signals Type LA (1¼" x 1¼"), #220 (1¼" x 1¼" compression top), #521 (2" x 1¼"), #270 (2" x 2"), #271 (2" x 2" with half union top), #275 (2" x 2" with compression top); VENTALARM GAUGE combinations Type VG-A (2" x 1¼") and VG-B (1½" x 1¼").

Universally approved by Leading Fire and Safety Authorities in accordance with the individual models which fulfill local regulations.

SCULLY SIGNAL COMPANY 174 Green St., Melrose 76, Mass.

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VENTALARM® GAUGE
Combination Audible Signal and Visible Gauge

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Easy-to-See Separate Gauge Sturdy, Economical

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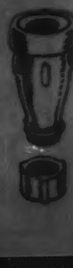
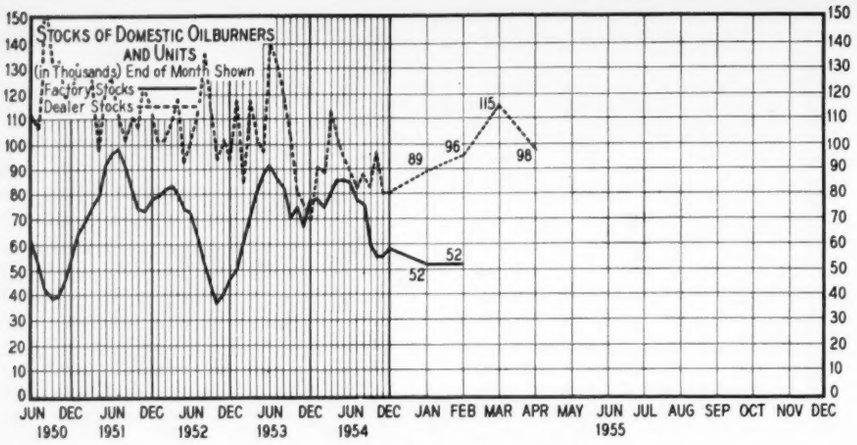
Portable Connection for Gun and Fill Pipes of all sizes



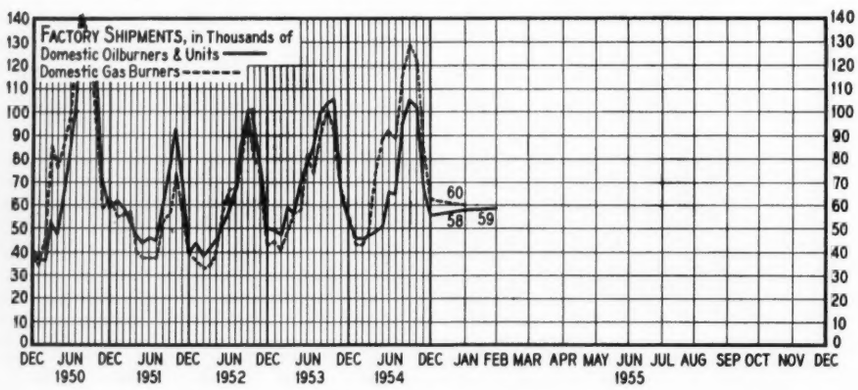


Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	FEBRUARY			TWO MONTHS		
	1955	*1954*	*Percent Change*	*1955*	*1954*	*Percent Change*
Conversion	40,839	28,544	+ 43.1	81,725	59,010	+ 38.5
Boiler Units	5,238	3,519	+ 48.8	9,550	7,352	+ 29.9
Furnace Units	12,712	10,602	+ 19.9	25,370	21,370	+ 18.5
All Domestic	58,789	42,665	+ 37.8	116,607	87,732	+ 32.9
Commercial	2,306	2,781	— 17.1	4,838	5,046	— 4.1
Total	61,095	45,446	+ 34.4	121,445	92,778	+ 30.9



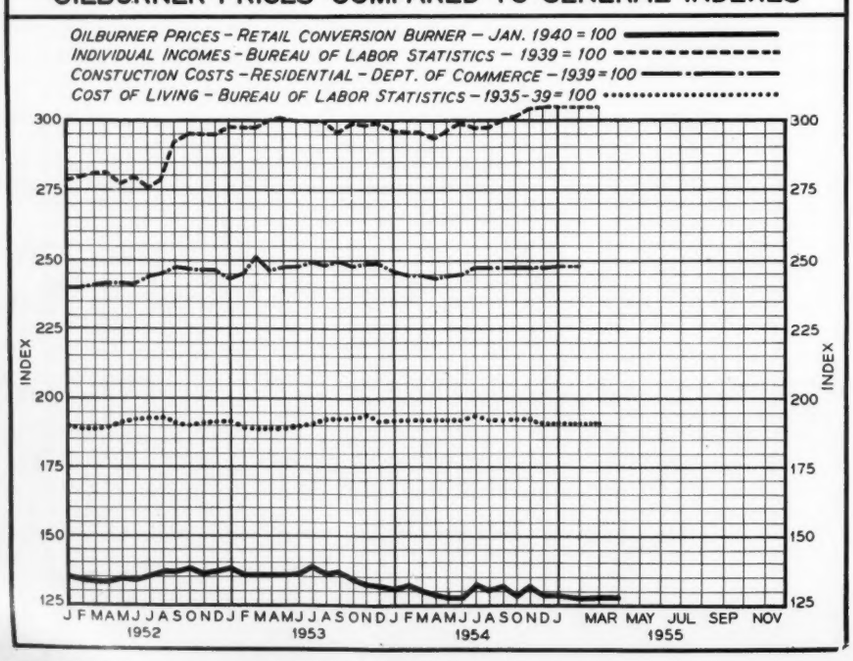
April Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
April Aver.	$314	$706	$594
March Aver.	315	705	594

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
April	138.4	Six months ago	134.0	April	128.1	Six months ago	128.9
March	139.6	Year ago	141.0	March	128.1	Year ago	127.9

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
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1955

Oilheating Trends

OILHEATING INSTALLATIONS in April failed to maintain the strong rate of improvement shown in the first quarter. The April figure for domestic oilburners and units was 51,179, which is 4% above the 49,023 in the same month last year. The four month total figure on domestic installations for this year is 177,689 compared with 162,165 last year showing a rise of 10%.

April installations by type of application showed: New Homes, 19,902; Replacements of old oilburners, 6,104; Conversions from other fuels, 25,173.

BURNER STOCKS: At the end of April dealers had in their warehouses approximately 98,355 domestic oilburners and units compared with 115,446 at the end of March and with 103,102 at the end of April last year.

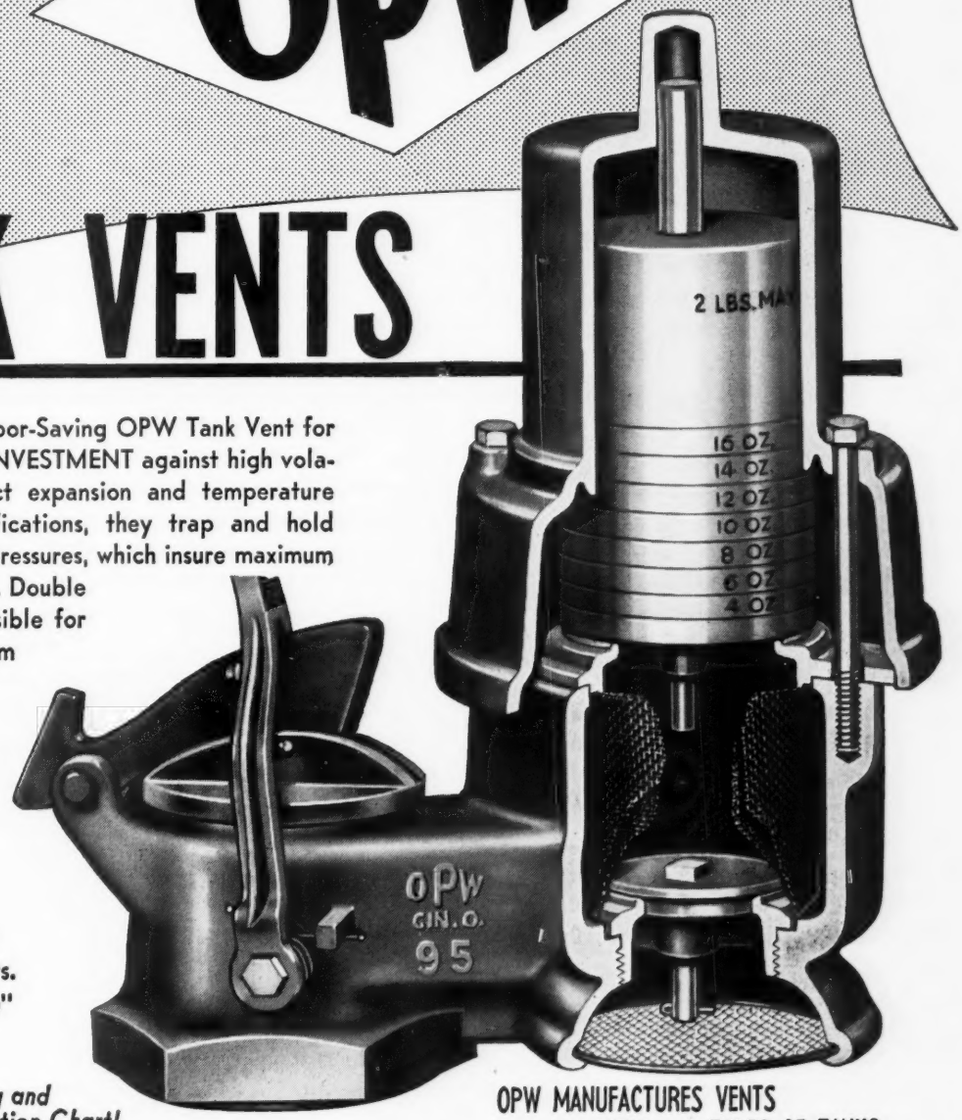
The April 30 stocks were divided: Conversion burners, 64,390; Boilerburner units, 17,373; Furnace-burner units, 16,592.

Factory stocks on February 28, latest available data, were 52,027 compared with 51,733 the previous month and with 73,506 at the end of February 1954.

TANK STOCKS: Customer oil tanks in dealer hands at the end of April total approximately 49,545 which was an important pickup from 36,343 the previous month and only a little below the previous year when there were 52,799.

The average dealer cost for 275 gallon tanks was $30 or the same as the previous month. By sections of the country this showed: New England, $26; Mid-Atlantic, $31; Midwest, $28; Pacific Northwest, $38.

PREVENT COSTLY VAPOR LOSS and BUCKLING *with* OPW TANK VENTS



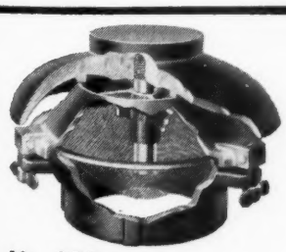
There's a Vapor-Saving OPW Tank Vent for every purpose. They are your INVESTMENT against high volatile vapor loss due to product expansion and temperature variation. Weighted to specifications, they trap and hold vapors and release only at set pressures, which insure maximum protection and dollar dividends. Double mesh screen . . . readily accessible for inspection prevents flame from following vapor into tank maintains bulk storage safety at the highest level.

OPW No. 95—precision machined, product engineered for lifetime use, characterizes the rugged, simple construction common to all OPW Tank Vents. Available: 2" - 3" - 4" - 6" - 10"

Send for the OPW Tank Venting and Emergency Relief Recommendation Chart!

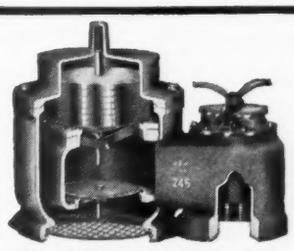
OPW MANUFACTURES VENTS FOR ALL SIZES and TYPES OF TANKS

Small Home-Storage Tanks | **Farm Skid Tanks** | **Under-ground Storage Tanks** | **Above-ground Storage Tanks**



No. 209

Emergency escapement vent, for relief of pressure only. Used in conjunction with vacuum vents.



No. 245

Combination pressure, vacuum vent. 4", vacuum ½ ounce-pressure, 2 oz. to 2 lbs. 6", vacuum ¼ ounce-pressure, 1½ oz. to 1 lb.

OPW CORPORATION
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Special Study this Month

NEW BUSINESS SOURCES: At different times in the history of the oilheating industry we have made studies of the source of new fueloil accounts coming to the oil marketer. For the purpose of the analysis shown in the table on page 17 we selected five general sources of new fueloil accounts and a sixth item to include all other sources.

Recommendations from existing customers lead the parade as the best single source. This represents slightly more than one-fourth of the total. Some companies, of course, make a special play to get leads from their present customers, occasionally offering cash awards or merchandise gifts. It is significant that there was relatively little variation by sections of the country on the percent of accounts from this source.

Of second importance we found new accounts secured through installing oilburners. This figure is a little hard to reconcile with other studies but it must be reasonably right since again you will notice not much variation throughout the country. In other studies of the past year made on a considerably larger scale we found that fueloil companies installed 43% of all oilburners throughout the nation. When we see, then, that they get only half that many of their new customers through this channel we can only visualize a very considerbale turnover in old customers.

New business gained through personal solicitation ranked quite high with 21%. In general this refers to full-time oil salesmen who are out looking for business every day.

Apparently 12% of new fueloil business can be traced directly to the results of advertising. This would include showroom visitors, call-ins by phone, and in some instances coupons from ads.

The fifth best source of new fueloil business apparently comes through paying commissions to oilburner dealers, and this represents 10% of total new business. Again we see that the pattern is quite consistent.

Oilburner* and Building Permits

OILBURNERS April 1955	OILBURNERS April 1954	OILBURNERS 4 MONTHS 1955	OILBURNERS 4 MONTHS 1954		DWELLINGS April 1955	DWELLINGS April 1954	DWELLINGS 4 MONTHS 1955	DWELLINGS 4 MONTHS 1954
2	9	..	34	Albany, N. Y.	..	..	..	..
25	49	154	224	Baltimore, Md.	355	228	1305	764
..	..	..	..	Binghamton, N. Y.	14	18	48	45
..	..	..	..	Bloomfield, N. J.	19	2	64	24
..	..	..	..	Boston, Mass.	80	69	215	151
98	68	362	293	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	60	62	171	134
50	15	225	77	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	..	340	..	1288
..	..	..	..	Detroit, Mich.	223	371	869	953
33	16	85	111	Elizabeth, N. J.	1	20	24	30
41	56	155	140	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	..	27	..	181
..	..	..	..	Hackensack, N. J.	4	8	21	18
..	112	..	456	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
39	36	69	80	Irvington, N. J.	5	2	12	6
..	..	..	..	Lynn, Mass.	25	12	70	54
17	38	99	231	Meriden, Conn.	..	..	..	..
358	371	1437	1609	Milwaukee, Wisc.	289	445	971	963
16	10	57	60	Minneapolis, Minn.	127	105	301	280
13	14	49	42	Montclair, N. J.	..	..	..	..
2	..	8	..	Morristown, N. J.	11	10	11	30
32	21	92	78	Mt. Vernon, N. Y.	..	..	..	..
89	116	..	299	Newark, N. J.	..	..	..	..
34	29	233	159	New Bedford, Mass.	..	..	..	..
22	26	70	104	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
..	12	..	69	New Rochelle, N. Y.	37	39	159	99
..	..	..	..	New York City (Total)	..	..	..	..
683	981	3148	3730	Brooklyn-Queens	..	..	..	..
..	..	..	..	Manhattan, Bronx, Rchd.	..	..	..	..
20	32	95	235	Norfolk, Va.	50	51	196	165
..	..	..	..	Oakland, Calif.	..	..	..	..
..	5	..	63	Omaha, Nebr.	..	136	..	341
10	13	..	31	Orange, N. J.	3	3	6	6
11	15	26	35	Passaic, N. J.	..	..	..	..
43	32	121	67	Paterson, N. J.	17	38	54	105
212	399	957	1316	Philadelphia, Pa.†	..	..	..	..
..	..	..	..	Plainfield, N. J.	12	8	45	32
30	46	152	139	Portland, Me.	22	13	51	35
319	336	1181	1023	Portland, Ore.	112	181	403	556
6	36	61	68	Poughkeepsie, N. Y.	..	..	..	..
..	44	..	..	Providence, R. I.	28	18	67	44
..	..	..	..	Reading, Pa.	3	1	10	20
22	21	117	111	Richmond, Va.	32	44	123	167
99	12	..	113	Roanoke, Va.	..	..	..	..
103	148	338	395	Rochester, N. Y.	..	..	..	..
6	17	40	40	Rockville Center, N. Y.	6	4	20	24
22	19	105	95	Salem, Mass.	11	4	28	13
117	51	498	405	St. Louis, Mo.	60	60	181	190
2	1	39	31	St. Paul, Minn.	150	109	347	324
16	26	43	97	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	196	235	785	742
119	74	625	392	Spokane, Wash.	..	..	..	..
..	..	..	..	Springfield, Mass.	245	107	568	335
31	41	130	132	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, N. Y.	..	..	..	..
..	..	..	..	Trenton, N. J.	4	24	28	32
..	..	..	..	Utica, N. Y.	27	13	43	29
40	38	215	211	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	29	29	98	76
11	17	59	67	White Plains, N. Y.	7	42	22	71
24	35	134	138	Wilmington, Del.	8	11	35	17
60	98	293	374	Worcester, Mass.	..	..	..	..
48	46	128	170	Yonkers, N. Y.	..	..	..	..
1695	1958	6189	6423	Totals	1755	1664	5500	4753
—13.4	..	—3.7	..	*Percent Change*	+5.5	..	+15.7	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

†Courtesy of "Philadelphia Inquirer."

The reporting companies were asked if they are inclined to push oilburner sales harder this year than last in the interest of creating new fueloil accounts. The composite answer was 94% "yes" and 6% "no." We see evidences in other directions indicating that oilmen are coming to a stronger realization that it's up to them to sell an increasing share of the oil business.

Sources of New Fueloil Customers

	New Eng.	Mid-Atl.	Mid-West	Pac. N.W.	U. S. Avg. 1955
Old customer recommendation	26%	25%	24%	33%	26%
New burner installations	22	23	20	18	22
Personal solicitation	19	19	26	15	21
Direct advertising responses	13	12	11	17	12
Commission to burner dealers	19	11	10	8	10
All Other	11	10	9	9	9

Among the cities included in the survey this month 81% have natural gas and 19% do not. In those cities that have natural gas the oil marketers tell us that the general heating and plumbing dealers are much more inclined to sell gas equipment than oil equipment. For example, in New England 71% of the reporting companies say that the heating dealers in their cities are pushing gas heating in preference to oil. In the Mid-Atlantic states 86% of the reporting oil companies say that the heating dealers are in favor of gas. In the Midwest all of the reporting oil companies located in cities that have natural gas report that the heating dealers are pushing gas heat. In other words the score on this question for that section of the country is 100% in the direction of gas. In the Pacific Northwest there is no natural gas so obviously most of the heating dealers favor oil except in a few cities like Portland where manufactured gas is being promoted for house heating.

In the nation as a whole according to the opinions of the oil men 86% of heating dealers favor gas over other fuels. This again backs up the point that an increasing share of oilheating in the future will be sold by the oil companies since they will be the principal beneficiaries through the expansion of their fueloil volume.

Going back to the table on sources of new accounts, we find that when the company gets business through old customer recommendations about a third of these result from the salesman making personal visits to the old customers. A little more than half of the companies (56%) find that it pays to use direct mail on these old customers to get them to send in or phone in to suggest prospects.

Among reporting companies 27% make a cash gift to the old customer for any names that they can sign up for fueloil. These gifts range anywhere between $2 and $10 each and the average is $5. Then there is another 11% of the companies that offer merchandise gifts rather than cash.

Again referring to the table where we saw that personal solicitation was an important activity in getting new business, we learn later in the study that approximately 45% of personal solicitation success comes from house to house canvassing and the other 55% comes through business contacts such as real estate men, milkmen and the like.

When a fueloil company pays a commission to outside oilburner dealers for getting a new fueloil account, sometimes it's a direct cash gift, sometimes it's based on a fraction of a cent per gallon. We find that 28% of the companies will make an outright cash payment ranging anywere from $5 to $10, averaging $6.10. Another 37% of the reporting companies pays a commission to burner dealers on a gallonage basis. This ranges from a low point of one-fourth cent to a high of one cent a gallon but nearly all of the companies use a one-half cent payment basis. Between the two groups just mentioned as paying commissions, there is a 5% overlap so that the total companies paying commissions represent 60% of the reporting group.

There is another interesting point here. Where they pay as high as one cent a gallon it will be for the first filling or the first year's volume only. On the other hand just under two-thirds of the companies will continue paying commissions for as many years as the oilburner man can hold the account. One oil company reported that it pays the burner dealer $10 for the first year and then one-half cent a gallon to hold the business.

All told, while we see that these commission arrangements get only 10% of the new oil contracts, a substantial majority of the fueloil marketers do pay such commissions.

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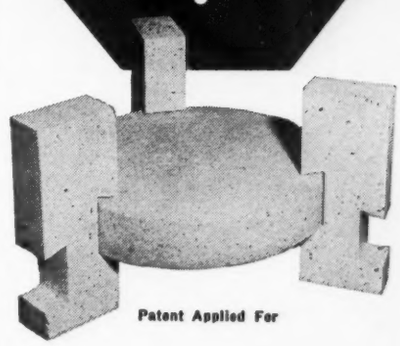

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Government Influences on Fuels

by
Milburn Petty

WASHINGTON—Under the prodding of President Eisenhower, top-level officials are taking a fresh look at plans for building huge pipelines to move crude oil and products to both coasts in case of another war.

For several years, military planners have wanted a program developed which could provide additional pipeline capacity of a million barrels daily to the East Coast for use in an emergency that might disrupt tanker movements.

So, the Office of Defense Management is now studying several proposals for oil lines from the Gulf to East Coast.

One is the long-pending project of Paul Ryan, New York, who seeks government backing that would facilitate the financing of his proposed common carrier line to Newark, N. J.

Another is a proposal by Texas-Eastern (which purchased the Big Inch and Little Inch lines from the government after World War II and converted them to natural gas) to install standby pumping equipment that could step up the Little Inch to about 400,000 barrels daily.

Meanwhile, the House Armed Services Committee plans an investigation of the "adequacy" of West Coast oil supplies under wartime conditions and what, if anything, needs to be done about it, including the advisability of building a crude oil line from West Texas to California.

Action on Oil Imports Seen

Now that Congress has completed action on legislation that *could* pave the way to restriction of oil imports, pressure can be expected from the coal interests and independent oil producers for the Administration to use this new authority to hold imports down to 1954 ratios with domestic production, as recommended by the Cabinet fuels policy committee.

Since the fuels policy report declared that imports above 1954 levels could hurt the domestic fuels industries, the anti-import forces are saying that no further findings are needed for the President to act under the new legislation.

However, the Administration may take the position that it is "too early" to say whether or not 1955 oil imports will "significantly" exceed 1954 ratios. Also, there are other "IFs" involved which might delay action against imports, if the White House is so minded.

There are signs that the Administration plans some move to get the importers to voluntarily adopt a hold-the-line policy on imports.

Meanwhile, the National Petroleum Council has adopted a report which found that imports of crude had "damaged" the domestic oil industry.

While there was no criticism of past levels of residual imports, it was stated that increases in oil imports (including products) beyond the "supplemental" level could "seriously damage" the domestic oil industry.

Oil Productive Capacity Gains

U. S. capacity to produce petroleum liquids increased to 9,096,000 B/D as of last July, with a shut-in capacity totaling 2,212,000 B/D, according to a report just issued by the NPC. Also, the refining capacity goal has been filled and a new target set at 9,000,000 B/D by the end of 1956. So, plenty oil is in sight.

Senate Amends Oil Compact Rule

The Senate has voted to extend the Interstate Compact to Conserve Oil and Gas for another four years—but has attached some strings.

An amendment by Senator Douglas (D., Ill.) would require the Attorney General to report annually on whether oil-state activities under the Compact resulted in "stabilizing or fixing prices of oil or gas."

Deputy Attorney General Rogers has said such a study would involve "economics" and would be outside the Department of Justice's proper sphere.

NOJC to Seek FHA Code Change

National Oil Jobbers Council has instructed its general counsel, Otis H. Ellis, to confer with the Federal Housing Administration, the Veterans Administration and other home financing agencies with a view to having them amend their building codes by requiring an all-purpose chimney, with a flue of at least 7 inches to withstand a minimum temperature of 1,000° F.

The NOJC, at its St. Louis meeting, also recommended "that all fuel-oil jobbers who wish to progress in the fueloil business make available to the fueloil user a burner service" where local regulations permit.

It also recommended that state and regional jobber associations join the Distributors Division, Oil Heat Institute of America.

Showdown on Gas Bill is Near

Indications now are that gas producers and transmission lines—perhaps some of the distributors, too—may get together on terms of a bill to free independent producers from control by the Federal Power Commission.

But the consumer representatives who have been fighting the Harris Gas Bill likely will continue pressing for direct control of the producers.

The consumers seem to feel that, even with the proposed brakes on price escalation clauses in gas purchase contracts with producers, there would be widespread increases in gas prices.

In reply, the producers point out that some of the gas companies doing the most complaining have not increased their rates to consumers in five years, even though field prices have increased.

Most any kind of gas legislation will raise some gas prices, particularly those in fields where contracts have been "frozen" at 6 cents or less.

Jobbers Eye Oil Divorcement

Whether to recommend divorcement of marketing from other branches of the industry was discussed at the NOJC but a decision was deferred until next meeting in November.

Meanwhile, the jobbers council will study whether the oil depletion allowance is being used to "subsidize losses" in marketing.

An NOJC accounting report indicated 1954 gross profit for jobbers was 16.5%, with 20.2% for fueloil and 13.6% for gasoline. Net after taxes was 1.6%.

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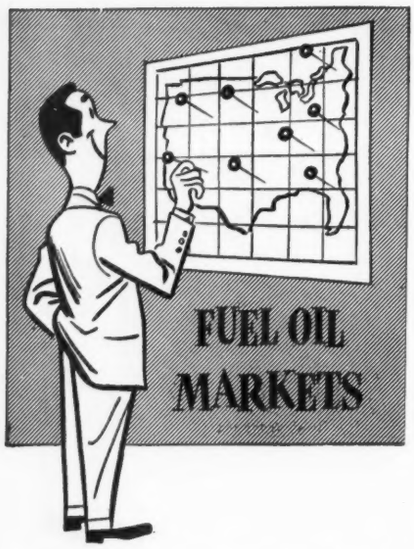


ACTIVITY IN HEATING OILS was decidedly dull at the middle of May as primary inventories continued to rise and prices were seasonally down.

Notice in the primary stock table that the amount of distillate fueloil in storage at refineries, terminals, or in transit is more than 16% above a year ago. This was brought about by the pattern established during the colder weather and not checked when the Spring was quite warm.

Naturally, through this summer stocks should run moderately above last year because the demand next winter will be importantly increased, assuming normal weather.

It is interesting that the secondary stocks at the end of March were only slightly above last year. This shows that the independent fueloil distributors are matching their purchases to their current needs on a short-range basis.

The price table shows significant declines throughout the East and West Coast areas. There was very little change in the Midwest. The half-cent voluntary allowances on tank car prices in the East are partly due to the long stock position and consequent spot market offerings and partly designed as a stimulant to encourage distributors to maximum summer efforts.

To the end of April the heating season in the East had been 9% colder than last year. In the Midwest it was 8% colder, and in the Far West 16% colder. The result has been that fueloil marketers have had an extra good season, as a general observation.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of May 15, 1955

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.25¢†	13.9¢	Richmond	10.45¢†	13.6¢
Boston	10.15†	13.8	Charleston, S. C.	10.3†	13.3
Providence	10.15†	13.8	Chicago	10.7*	14.1
Springfield, Mass.	..	..	Detroit	11.65*	14.9
Hartford	10.4†	13.9	Cleveland	11.3*	13.7
New Haven	10.05†	13.5	Minneapolis	10.5	13.8
Syracuse	11.05†	14.2	St. Louis	10.5*	13.9
Albany	10.35†	13.6	Indianapolis	11.125*	14.6
New York	10.05†	13.5	Milwaukee	12.0*	15.0
Newark	10.05†	13.0	Des Moines	10.75	13.8
Philadelphia	10.05†	12.9	San Francisco	10.45*	13.0
Harrisburg	..	14.0	Portland, Ore.	11.05*	13.6
Baltimore	10.05†	13.6	Seattle	10.95*	13.6
Wilmington, N. C.	10.15†	13.4	Spokane	13.45*	16.0
Washington	..	14.0	Los Angeles	9.95*	12.5

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.
†Prices subject to .50¢ voluntary allowance.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	April		Percent		Sept. through April			Percent
Normal	1954	1955	Change*		Normal	1954	1955	Change*
597	498	455	—23.8	Albany AP	6624	6012	6321	— 4.8
133	70†	56	—57.9	Atlanta AP	2806	2588†	2751	— 2.0
378	185†	247	—34.7	Baltimore AP	4667	3524†	4897	+ 4.9
534	442	469	—12.2	Boston AP	5506	4837	5262	— 4.4
636	524	414	—34.9	Buffalo AP	6405	5708	5944	— 7.2
507	354	239	—52.9	Chicago AP	6023	5090	5394	—10.5
314	189	185	—41.1	Cincinnati CO	4424	3912	4509	+ 1.9
531	327	268	—49.5	Cleveland AP	5727	4870	5253	— 8.1
75	26	52	—30.7	Dallas AP	2272	2110	2147	— 5.5
525	333	444	—15.4	Denver AP	5765	4697	5555	— 3.7
438	357	236	—46.1	Des Moines AP	6183	5573	5882	— 4.9
558	442	311	—44.3	Detroit AP	6085	5422	5639	— 7.3
546	443	301	—44.9	Grand Rapids CO	6148	5515	5712	— 7.1
528	446	449	—15.0	Hartford AP	5893	5186	5636	— 4.4
654	746	767	+17.3	Helena AP	7552	6737	7775	+ 3.0
36	10	15	—58.3	Houston AP	1388	1228	1230	—11.4
432	237†	235	—45.6	Indianapolis AP	5405	4460†	5117	— 5.3
292	172	108	—63.0	Kansas City AP	4769	3784	4284	—10.2
129	120	125	— 3.1	Los Angeles CO	1364	1055	1159	—15.0
285	163	134	—53.0	Louisville AP	4340	3910	4116	— 5.8
621	516†	423	—31.9	Milwaukee AP	6593	5697†	6261	— 5.0
570	553	328	—42.5	Minneapolis AP	7489	6824	7285	— 2.7
19	8	15	—21.1	New Orleans CO	1175	1079	1146	— 2.5
456	360	362	—20.6	New York CO	4879	4224	4724	— 3.5
389	309	180	—53.7	Omaha AP	5948	5177	5527	— 7.1
369	288	285	—22.8	Philadelphia CO	4430	3896	4204	— 5.1
402	238	202	—49.8	Pittsburgh CO	4898	4332	4628	— 5.6
693	654	629	— 9.2	Portland, Me. AP	7099	6509	6698	— 5.7
347	405	517	+49.0	Portland, Ore. CO	3847	3641	4046	+ 5.2
570	459	481	—15.6	Providence AP	5783	5163	5448	— 5.8
289	177	167	—42.2	Roanoke, Va. AP	4071	3722	4112	+ 1.0
270	155	88	—67.4	St. Louis CO	4368	3765	4087	— 6.4
453	293†	572	+26.3	Salt Lake City AP	5552	4524†	6121	+10.2
279	232	374	+34.1	San Francisco CO	2275	2096	2488	+ 9.4
846	841	611	—27.8	Sault Ste. Marie AP	8517	7835	7989	— 6.2
396	482	525	+32.6	Seattle CO	3991	3896	4123	+ 3.3
555	393	288	—48.1	Toledo AP	6077	5360	5595	— 7.9
323	198	209	—35.3	Washington AP	4246	3923	4085	— 3.8

*Compared with normal. †City Office.

Distillate Fueloils

PRIMARY STOCKS*
(Thousands of Barrels)
East of Rockies

	May 6 1955	May 8 1954
East Coast	25,579	21,771
Midwest	20,631	18,458
Gulf Coast	14,129	11,783
Total	60,339	52,012

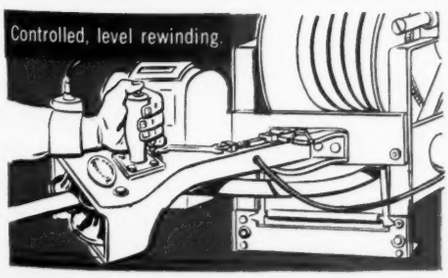
SECONDARY STOCKS**
(Thousands of Barrels)

	Mar. 31 1955	Mar. 31 1954
East Coast	6,039	5,371
Midwest	4,653	4,525
Gulf Coast	606	619
Mountain	446	482
Pacific	1,158	1,208
Total	12,902	12,205

*American Petroleum Institute. **Bureau of the Census.

NOW make deliveries to LEFT or RIGHT without turning truck

Guided unwinding to left, right or rear of truck.


Controlled, level rewinding.

Now you can quickly and easily make deliveries to the right or left sides of your truck without turning it around. One-way streets are no longer a problem. The Hannay Guidemaster also gives a practical, simple, and economical method for controlled, level rewinding of hose. For more profitable fuel oil delivery install the Hannay Guidemaster.

- Easily guides hose "around the corner" from cabinet to either side of truck.
- One-hand operation for controlled, level rewinding. Pushbutton switch.
- Low first cost; pays for itself in time-savings.
- Ball bearing aluminum-alloy rollers ease hose on and off reel.
- Protects hose from sharp edges on truck body.
- Thoroughly proved in actual field service.
- Can be installed with new or existing reels.

Greatest Name in Hose Reels

HANNAY HOSE REELS
REG. U.S. PAT. OFF.
CLIFFORD B. HANNAY & SON, Inc.
WESTERLO, NEW YORK

Write today for complete information and specifications.

CLIFFORD B. HANNAY & SON, Inc. WESTERLO, N. Y.

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OILHEATING MEN make MARKETS

Sixth of a Series
Union County (N. J.)

Members *of the Union County (N. J.) Oil Heat Association present at a typical monthly meeting:*

Front row, left to right . . . *Phil Carter (Secretary), T. R. Loizeaux Fuel Co.; Babe Feller, Feller Fuel Co.; Howard Clark, Hess Oil Co.; Jack Falk, Coastal Oil Co.; Wes Lammerding, Lammerding Oil Co.; Bob Grube, Reel-Strong Fuel Co.; Harry Quick, Reel-Strong Fuel Co.; Joseph Toth, American Mineral Spirits Co.; Marty McDonough, Plainfield Lumber & Supply Co.; Fred Rathgen, Rathgen Bros.*

Second row, left to right . . . *Mike Formichella, Eastern Fuel Co.; Al Clements, Clements Bros.; Bart Clements, Clements Bros.; Joseph Rowan, Monarch Fuel Co.; Abe Chodosh, Chodosh Bros. & Wexler; Leo Kramer (Vice-president), Monarch Fuel Co.; Ed Clements (Treasurer), Clements Bros.; Bob Crane (President), Reel-Strong Fuel Co.; Hy Isaacs (Counsel); Stanley Joy, Joy Oil Co.; Bud Stevens, George O. Stevens; Ed Sutcliffe, Rahway Fuel; Joseph Guinee, Plainfield Lumber & Supply Co.; John Vogel, Certified Fuel Co.*

Third row, left to right . . . *Cliff Buckley, Hartol Petroleum Corp.; Bill Ford, Reliable Fuel Co.; Bud Poling, Poling Oil Co.; Ben Canter, Canter Bros.; Warren Rankin, Rankin Fuel Co.; John Farrand, Fuel Oil Distributors Association of New Jersey; Jack Madison, Eisenbud Fuel Co.; John Kuhland, Renick & Mahoney; Jack Clark, West Penn Oil Co.; Al Rosenberg, Albert Fuel Co.; Jim Smith, Premier Oil Co.; Harry Engleman, Engleman-Goodfield Co.; William Deegan, Summit; William Koch, Summit; Frank Comfort, Socony-Vacuum Oil Co.; Art Murphy, Rahway; George Burdricky, Certified Fuel Co.*

Fourth row, left to right . . . *Ben Eisenbud, Eisenbud Fuel; Phil Okun, Universal Heating Co.; Sam Rosenberg, Universal Heating Co.; Hugo Fugmann, Westfield; Charlie Haus, Weimar Coal Co.; Joseph Servideo, Jr., Rahway; Ralph Smith, Ralph L. Smith Co.; Gene Cook, Premier Oil Co.; George Wood, Jr., Boice-Runyon Co.; George Wood, Boice-Runyon Co.; Dave Rosenberg, Albert Fuel Co.; Joseph Servideo, Rahway; Amos Simmons, T. R. Loizeaux Fuel Co.*

UNION COUNTY promotes OILHEATING

Philip K. Carter
Secretary

Union County (N. J.) Oil Heat Association

THERE IS NO LIMIT to what a group of aggressive oilheating merchants can do to protect their market against the inroads of competing fuels. The Union County (N. J.) Oil Heat Association came into being in the spring of 1952. At that time, the dealers were faced with the increased costs of operations, and margins had been tight because of price controls. Due to what we considered a lack of understanding of our mutual problems at higher levels, the dealers in the county met to formulate plans to relieve the situation. It was at this time that the dealer organizations in Baltimore, Westchester County and greater Boston were of like mind and initiated steps to secure a margin return consistent with the increased operating costs which had been building up.

The purposes of our Association are spelled out in the by-laws as follows: "To cultivate good and helpful personal and business relationships among its members; to eliminate abuses and provide protection from fraudulent practices in the trade; supply informa-

tion in regard to prices, quality, and supply of fueloil; maintain a bureau for credit information and collection of accounts; to perform impartially any legitimate, reasonable and hlepful services for its members in matters relating to the fueloil industry; and always to promote the sale of oilheating equipment."

When these ideas were presented to the dealers of the county there was prompt support in the formation of the association, with 75% of the dealers, representing 85-90% of the gallonage sold in the county, becoming active members.

The original group nominated and elected the officers shown in the accompanying photograph, and the members have been pleased to re-elect them each succeeding year. In addition to the officers there is a board of directors composed of twelve active members. Our group is a chapter of the Oil Heat Institute of America so that membership in the Union County group automatically provides for OHI membership.

Realistic dealer Margins

Soon after our organization a more realistic dealer margin was obtained, these benefits being shared by all dealers in the State. Major oil companies have been very cooperative with our members. As a result of our success, adjacent counties in New Jersey have formed associations and have shared our concern over gas heating competition. All these dealers were encouraged to attend clinics or workshops held throughout the state, demonstrating possible means of combatting gas

Early in February 1954, a tri-county meeting of Essex, Morris, and Union County fueloil dealers was held and out of this meeting came a plan for promoting oilheating throughout the State. The raising of funds to cover the cost of this promotion work was discussed, and as a start dealers agreed to contribute at the rate of $50 per million gallons of annual throughput. The figure was subsequently increased to $100 per million gallons.

Our first promotion was a series of summer newspaper advertisements advocating the use of fueloil for heating domestic hot water. The Union County group developed a series of posters to be attached to their fueloil and service trucks, boosting the merits of oilheating. Soon these posters were being used by other dealers throughout the state and in neighboring states.

In fact, our campaign in Union County soon caught on in other counties, with the result that a New Jersey Oil Heat Council was organized to serve the state. This State Council, supported by most of the progressive dealers of the state, is currently sponsoring a large billboard campaign developing the theme of "Better heat with oil heat."

Need Education

The present need of our oilheating market primarily seems to be educational. We need better salesmen of oilheating equipment. We need better installations, with the elimination of undersize and poorly designed units. We need an up-grading of service mechanics, properly trained men for the job they are trying to do. We have been able to make some progress on the training of mechanics, but much more remains to be done.

Sales of oilheating equipment in new construction have lagged. Gas is getting the lion's share of such work. Most of our sales continue to be either the replacement of obsolete equipment or the conversion of coal heating.

Manufactured gas in our area costs about 33-1/3% more than fueloil. Natural gas, strangely enough, costs about 60% more. If the buying public knew the facts, they would undoubtedly demand oilheating in their homes instead of gas. We feel that with properly educated and trained sales personnel, backed up with a good promotional campaign, we can not only stop the trend to gas, but can actually reverse it and convert gas heated homes to fueloil.

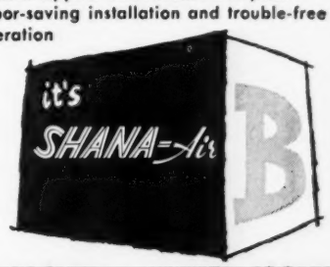
This is our ultimate aim.

The Union County Oil Heat Association meets monthly for dinner at 7:00 P.M., on the third Tuesday of each month at the Howard Johnson Restaurant on Route 22 in Mountainside, N. J. We have a capable speaker for each meeting and enjoy good interest and attendance of our members. Our board of directors meets subject to call, whenever important policy decisions are urgently needed.

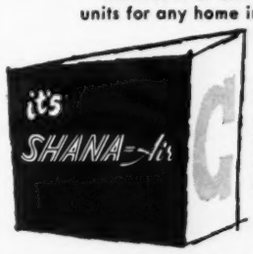
any way you look at it...

COMPLETE HOME AIR CONDITIONING UNITS!

- Greater profits at minimum investment
- Popular appeal and tested sales plan
- Labor-saving installation and trouble-free operation



AIR-COOLED or WATER-COOLED
individual or combination units for any home in any state



Priced below competition with a new financing plan! The industry's finest 1½, 2, 3 and 5 ton units!

EXCLUSIVE TERRITORIES STILL OPEN

Write, wire or phone today

SHANA MANUFACTURING, INC.
188 W. Randolph Street, Chicago 1, Illinois
Gentlemen:
I am interested in knowing more about SHANA-AIR HOME AIR CONDITIONING.
☐ DEALER ☐ DISTRIBUTOR ☐ MFG. REP.
Others please specify
Name_____
Firm_____
Address_____
City_____ Zone____ State____

FAST on the draw!

speed fuel oil handling with the

INGERSOLL-RAND

MOTORPUMP

and cut pumping costs!

With fast, dependable fuel oil handling a big profit factor, see why I-R Motorpumps are overwhelmingly preferred for their efficiency, low cost and long life with minimum maintenance.

For one thing, they're designed for extra power, with all their compactness! In sizes from 1/4 to 75 hp . . . 5 to 2800 gpm capacities . . . heads to 650 feet . . . Ingersoll-Rand Motorpumps in straight centrifugal and self-priming models handle practically all oil moving needs, faster and more profitably. Write for the latest catalog describing I-R Motorpumps for fuel oil handling or call your nearest Ingersoll-Rand Oil Equipment Jobber. 9-240A

Ingersoll-Rand

11 Broadway, New York 4, N.Y.

Corrections for the April Buyers' Guide

THE FOLLOWING CORRECTIONS and additional listings should be made in the Buyers' Guide and Industry Directory Section of the April 1955 issue. The changes are listed by company name, with principal product headings shown in italics, subheadings following in regular type.

Additional listings:

Atkomatic Valve Co., Inc., 545 West Abbott St., Indianapolis, Ind. Pres. and gen. mgr., Howard R. Taylor; Vice-pres. Albert C. Lord; Secy., Edward J. Bennett; Treas., Mark W. Lowe. *Valves:* Oil, solenoid.

Burn-Rite Products Co., 354 Saw Mill River Rd., Yonkers 2, N. Y. Gen. mgr., Harold Burack. Following should be added to the listings which already appear in the April issue: *Boiler-burner units:* Hot water and steam, high pressure burner; *Burner Parts, Misc.:* Combustion heads; Electrodes, ignition; Ignition assemblies; *Fittings:* Tubing sweat (venturi tees); *Pipe and fittings:* Cast-iron (venturi tees); *Pumps:* Water circulating; *Transformers:* Ignition; *Valves:* Tempering.

Cleaver-Brooks Co., 326 E. Keefe Ave., Milwaukee 12, Wis. Following should be added to listings which already appear in the April issue: *Boilers, Commercial.*

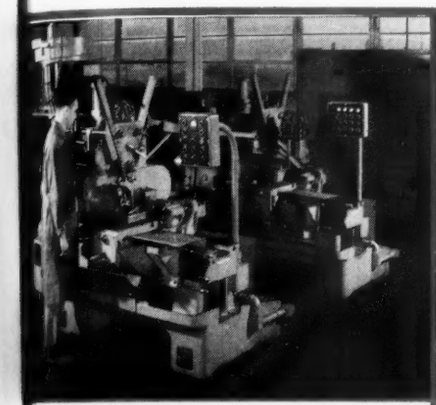
General Controls Co., 801 Allen Ave., Glendale 1, Calif. Following should be added to listings which already appear in the April issue: *Instruments:* Pressure, indicating; Pressure, recording; Temperature, indicating; Temperature, recording; *Motors, Electric:* Damper; *Switches:* Temperature; Time; *Valves:* Fueloil; Mixing; Oil, safety, cut-off.

Walton Laboratories, 1186 Grove St., Irvington 11, N. J. Following should be added to listing which already appears in the April issue. New main heading: *Humidifiers, Portable.*

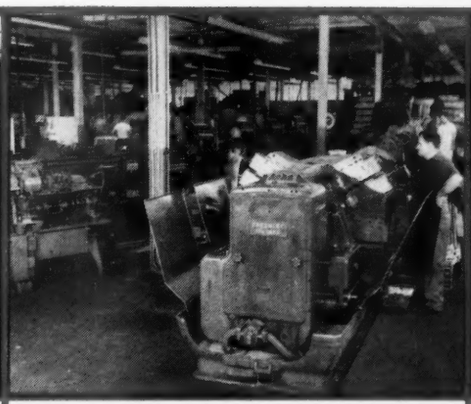
Watts Regulator Co., 10 Embankment St., Lawrence, Mass. Following should be added to listings which already appear in the April issue: *Valves:* Angle.

Westinghouse Electric Corp., Box 868, Pittsburgh, Pa. Pres., Gwilym A. Price; Vice-pres., L. E. Osborne; Secy.,

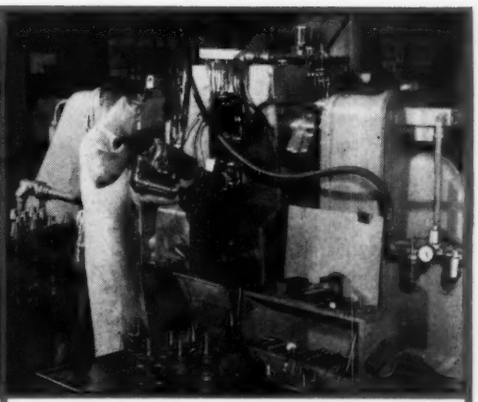
new home for fuel units
50TH anniversary celebration!



Automation—two inter-connected Sundstrand Automatic Lathes not only turn both faces and the inside and outside diameters of the rotor housing, but inspect the part after each operation and reject all imperfect housings.

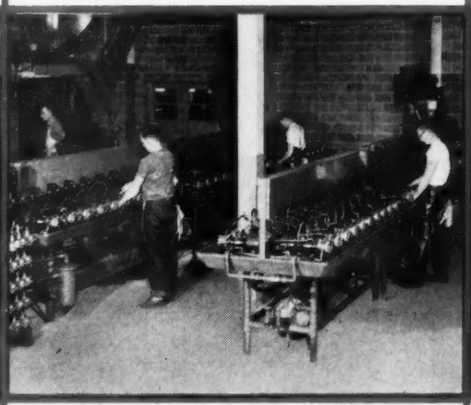


Battery of 10 Screw Machines, part of 114 modern production machines in the new Sundstrand plant. Many of these machines are designed specially for fast, economical, precision manufacture of fuel unit parts.

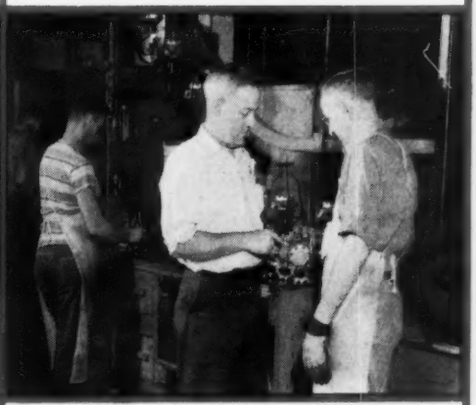


One of a series of specially designed machines for extremely accurate manufacture of fuel unit parts. Here the piston sleeve opening is finished, the inlet and return port openings drilled and tapped.

Sub-assemblies are fed to this main assembly line on a carefully planned and timed basis. Units move along from one station to the next for assembly operations, emerging as completed fuel units, ready for run-in tests.



Instead of "spot-checking," each Sundstrand Fuel Unit is run-in for 2½ hours under pressure, then individually tested for leakage, capacity, efficiency, pulsation, cutoff, power consumption, and quietness of operation.



"Gene" Haroldson, foreman of Assembly Department, represents the hundreds of skilled, experienced craftsmen who man the new plant. He's a 20-year man, one of many with ten years' experience or more.

Based upon more than two decades of specialized experience in manufacturing fuel units . . . and utilizing the extensive engineered production facilities of other Sundstrand divisions . . . the new home of the Sundstrand Hydraulic Division represents the "last word" in modern equipment and newest production practices.

Skilled, experienced craftsmen were moved from the old plant to the new to produce, assemble, test, and inspect. Rows upon rows of automatic machine tools form and finish parts to exacting specifications. Unique racks for run-in of equipment . . . acoustically treated booths for verifying quietness of operation . . . precision instruments for checking power consumption, pressure, pulsation, and efficiency . . . make it possible to certify the performance of each and every Sundstrand Fuel Unit.

A completely equipped laboratory assures quality control of materials, practical testing of fuel units on oil burners, and experiments on new developments.

You are invited to stop in and visit our new plant where every square inch has been utilized for more efficient, more economical output of the industry's leading fuel unit. With these new facilities, Sundstrand will provide even greater reason for being first with dealers, wholesalers, service stations, and manufacturers.

HYDRAULIC DIVISION

. . . a division of Sundstrand Machine Tool Co., 2210 Harrison Ave., Rockford, Illinois

FLUID MOTORS • STACK VALVES • LUBE PUMPS

Made in Canada by John Inglis, Ltd., 14 Strachan Avenue, Toronto • Made in Sweden by Sundstrand Hydraulic Division AB Stockholm

Millions know where this famous speedway can be found...

INDIANAPOLIS SPEEDWAY

BUT do people right in your neighborhood know where your business is located, what products and services you have to offer? Make certain they do by advertising adequately in the 'Yellow Pages' of your local telephone directory.

The 'Yellow Pages' are within easy reach of prospects 24 hours a day, every day, in homes, offices and factories. They reach newcomers in town . . . remind old customers, too. Put this famous buying guide to work for you. It's economical, and *it gets results!*

LET YOUR CLASSIFIED DIRECTORY REPRESENTATIVE TELL YOU MORE ABOUT THE 'YELLOW PAGES'. CALL HIM AT YOUR LOCAL TELEPHONE BUSINESS OFFICE.

E. V. Huggins; Treas., George C. Main. *Controls:* Relays, plain; *Fans and Blowers:* Attic cooling; *Motors, Electric:* Damper, Warm air blower; *Switches:* Manual, Overload; *Transformers:* Control.

The following corrections should be made in the listings indicated:

Kaustine Furnace & Tank Corp., Perry, N. Y. Product listings for this company appear under the correct classifications in the April issue, but the corporate name is shown incorrectly in all but a few places. All the following listings should be changed to indicate that the proper company name is "Kaustine Furnace & Tank Corp.": *Furnace-Burner Units:* Forced air, high pressure burner; Gravity, high pressure burner; *Furnaces:* Domestic oil; *Tanks:* Basement, steel, oil storage; Bulk plant; Truck; Underground, steel, oil storage.

The executive listed for Rockwell Mfg. Co., 400 North Lexington Ave., Pittsburgh 8, Pa., should be changed to the following: Pres., W. F. Rockwell, Jr.; Exec. vice-pres., L. A. Dixon, Sr.; Secy., I. Clifton Rowe; Treas., M. J. Carl; Gen. mgr., Paul A. Mankin; Product mgr., J. H. Judge; Chief engr., Howard J. Evans; Adv. mgr., W. F. Weimer.

❖

March industrial Building tops last Year by 120%

AT A MEETING of business economists George Cline Smith, economist for F. W. Dodge Corp., said that March contract awards for industrial construction in 37 eastern states totaled $176 million, an increase of almost 120% over March of last year.

During the first quarter of the year, he reported industrial contract awards ran nearly 26% ahead of the same period of 1954. This is the first substantial upturn in this category since the peak of 1951.

Other commercial building such as schools, churches, hospitals have brought nonresidential construction contract awards to a level in March which was 43% ahead of March 1954. Public works and public utilities also showed an increase of 18% over March 1954.

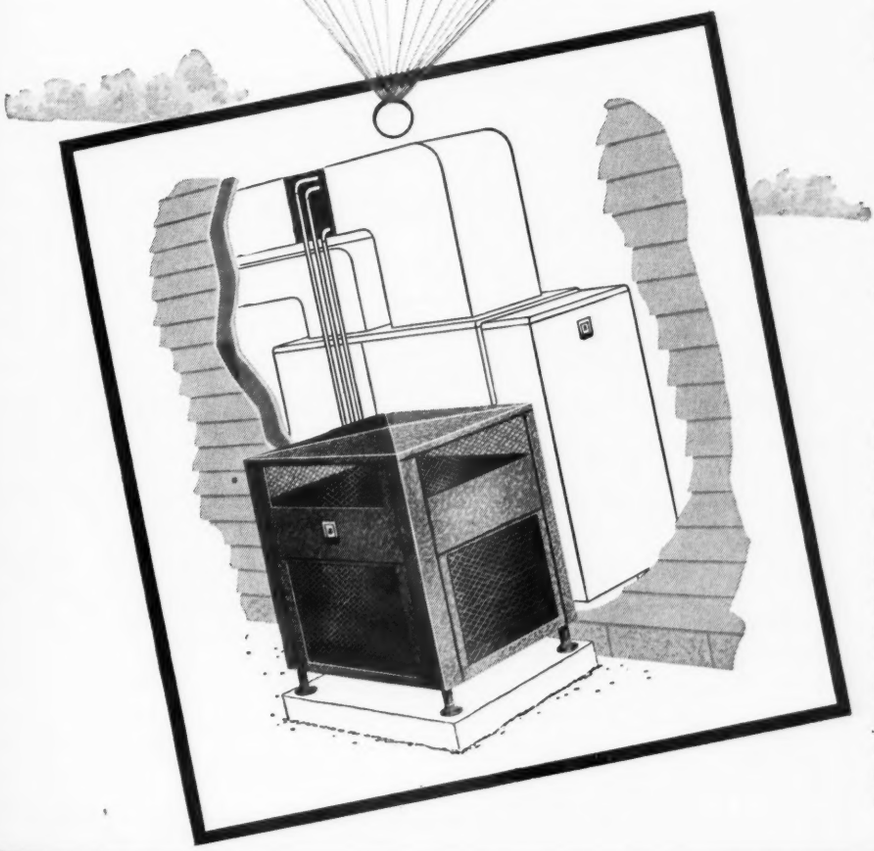
Suddenly...

New Air Conditioning Customers for You!

How many people are there in your neighborhood who've been *wanting* air conditioning but have held back because of high water rates or water restrictions?

Every one of those people is now—suddenly—an excellent prospect for an air conditioning installation. American-Standard's new Sunbeam outdoor air-cooled unit requires no water whatsoever—uses only electricity and air. And it provides fully automatic control of temperature and humidity.

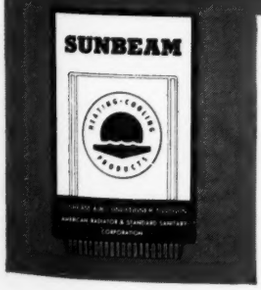
What's more, this unit combines economically with the home owner's new or existing heating system . . . enables you to offer year 'round comfort at a *competitive price.*



New SUNBEAM
AIR-COOLED UNIT
by
AMERICAN-Standard
Requires No Water
Uses No Floor Space

Available in 2 hp and 3 hp sizes, the New Sunbeam air-cooled condensing unit is designed to cool the entire house. As shown here, in a typical installation, it ties in with a Sunbeam evaporator unit in the furnace ductwork, and only a few connections are needed. Besides doing away with water and saving indoor floor space, this outdoor system has another advantage—it keeps all mechanical operating parts outside the house for *quiet* comfort inside. Cooling unit is covered by Sunbeam 5-Year Protection Plan.

NEW! *Sunbeam 1955 Cooling Sales Aids for dealers—a complete promotional package designed to help you locate prospects quickly and close orders fast. Ask your Sunbeam distributor for full details.*



SUNBEAM

AIR CONDITIONER DIVISION

American Radiator & Standard Sanitary Corporation
Elyria, Ohio

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE
DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

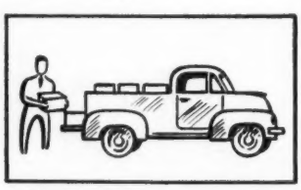
AT LAST!
PRACTICAL
PRE-FAB
FITTINGS

Duc-Pac fittings and duct PRESS together . . . in SECONDS. And Duc-Pac's *exclusive* internal lock eliminates any "hammering-over" of edges. Result: a neater job—finished faster.

Duc-Pac fittings and duct, packed in strong cartons, save space in storage and on your truck . . . can't collect dust or become dented. Inside the carton, all parts of each fitting are banded together and each fitting is labelled for quick identification.

Write TODAY for complete information on DUC-PAC—the line of *practical* pre-formed fittings.

No need to go through this time-consuming routine when you use Duc-Pac . . . the *practical* pre-formed fittings.



Duc-Pac fittings are quickly, easily loaded and unloaded . . . can't become battered on the way to the job.

DUC-PAC
DIVISION OF SWETT BROS.
78 ISLAND POND ROAD
SPRINGFIELD • MASSACHUSETTS

Piping water heating Tanks

by
George H. Lippencott

SHOWN IN THE DRAWING are typical piping hook-ups used with small diameter tanks, from 12" to 24", when gravity type indirect water heaters are used. The diagrams and text point out some of the shortcomings of these arrangements and indicate troubles that may be expected when they are used. On the other hand, the hook-up shown in Diag. 4 pictures a method which has been field tested and found to be efficient.

Diag. 1 shows the fixture line connected to the tapping on top of the tank in the center. The cold water feed is connected to the tapping in the bottom of the tank at the right; the sediment line is connected to the tapping at the left. Circulation line from the heater hooks into the tapping in the tank head.

Study the distance and height between the point of entry of the feed water and the relief point at the fixture line. When a faucet is opened, water from the feed line with pressure behind it will jump instantly across the tank to the relief point or fixture line. This causes a mixing of cold water with the heated water, with complaints, naturally, that the service water is not hot enough.

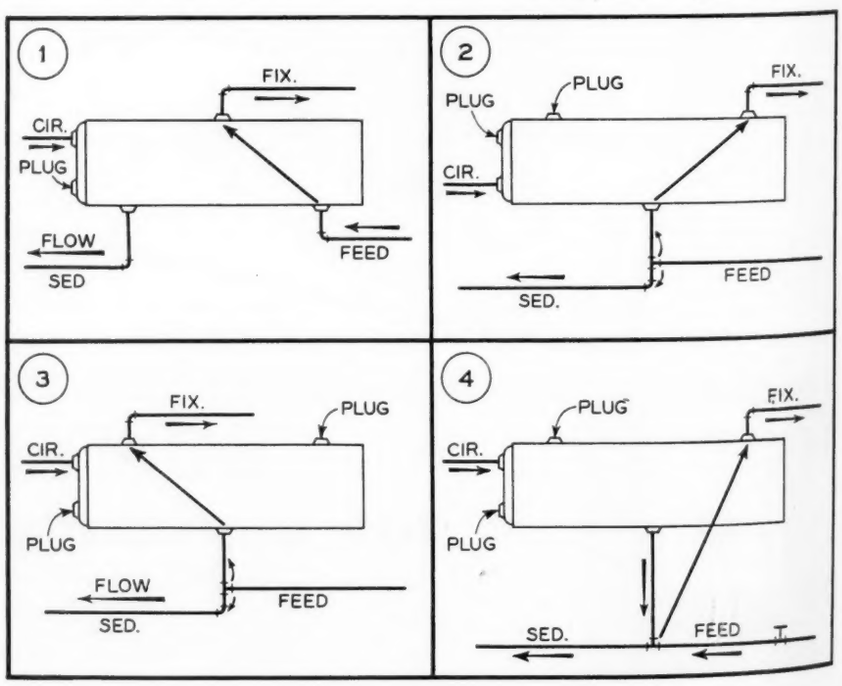
Diag. 2 shows the tank turned around with the fixture line to the right and the circulation line connected to the lower tapping in the tank head. The heated water from the exchanger flows to the low point in the tank where water temperatures are lowest instead of entering at the top and flowing the full length of the tank without mixing and gradually replacing low temperature water as it drops to the heater.

The sediment line in Diag. 2 is connected to the center tapping with the cold water feed connected to the center inlet of the tee. This is not good practice for the simple reason that when a faucet is opened, the feed water flows against the back of the tee and causes turbulation at that point.

As a result the feed water flows in two directions. In this case, when a faucet is opened it acts the same as a relief point and the cold water will short circuit across the tank to the fixture line. This, of course, lowers the water temperature at the relief point and also at the fixture.

Connections to the head of the tank are shown correctly in Diag. 3. However, notice the short distance between the fixture line and the tapping. Here we have a short circuit between the two points when a faucet is opened.

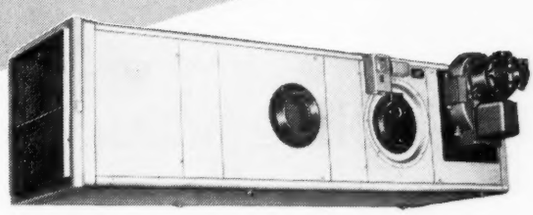
(*Please turn to page* 38)



YOU "outsell" WITH moncrief OIL AND GAS horizontal furnaces

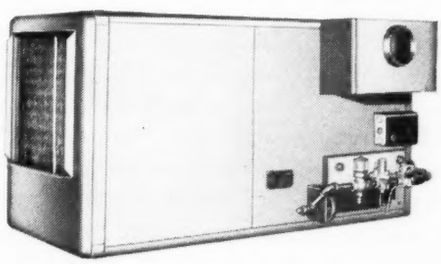
BECAUSE THEY "excell" WITH...

- DESIGN
- CONSTRUCTION
- OPERATION
- INSTALLATION FEATURES



OIL FIRED UNIT

4 Sizes... 84,000, 100,000, 123,000 and 224,000 Btu Output



GAS FIRED UNIT

4 Sizes... 65,000, 85,000, 100,000 and 140,000 Btu Input

NOW! From Moncrief's 60 years' experience in the manufacture of heating equipment comes a full line of Moncrief Horizontal Forced Air Heating Units, with a wider choice of sizes and capacities.

Four sizes of Moncrief *Oil* Fired Horizontals, and four sizes of Moncrief *Gas* Fired Horizontals, provide a heating capacity for practically every type of application in which the use of floor space is eliminated.

Suspended in an attic or in a "crawl space", Moncrief Horizontal Units are unexcelled for compactness, ease of installation, and trouble-free operation.

Yet, their price is competitively low, competitive even in today's highly competitive market!

Your opportunity to compete profitably with horizontal furnace installations is the full Moncrief line. See your Moncrief wholesaler.

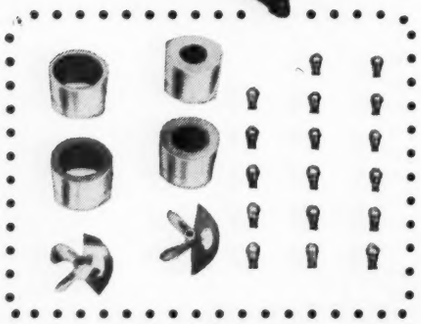
They're Built Right!
They're Priced Right!

THE HENRY FURNACE COMPANY • Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

fuel oil & oil heat

THIS IS A MONEY-MAKER FOR YOU!



Mt Hawley
ALL-IN-ONE Oil Burner

Here's *one* burner you can stock instead of *three* – for it quickly adjusts to any capacity from .6 to 4.5 gph! Handles any job from a small home to a six-apartment building...gph can be quickly increased if the owner adds space.

Capacity changeover requires only two parts to be replaced: the choke ring and air diffuser. You get a complete set of these, as shown above, with each burner you order. Combine the correct two with any one of 17 commercial nozzles to get the gph rating you want!

Mt. Hawley ALL-IN-ONE (F45) comes in four burner tube lengths with universal flange or pedestal mounting. No complicated firing head or "hairline" adjustments – operation is simple, quiet, efficient. Weight: 52 lbs.

Your letter or postcard brings the whole story on this revolutionary new burner – at no cost or obligation. Don't put it off – write today!

MT. HAWLEY MFG. CO.
Dept. F-6, Routes 88 and 174 Peoria, Illinois
Rush full facts on the revolutionary Mt. Hawley ALL-IN-ONE (Model F-45) oil burner! I do not obligate myself in any way.

Name.....
Firm.....
Address.....
City..... State.....

MHM Mt Hawley MFG. CO.
PEORIA, ILL.

Keep in mind we do not have an instantaneous heater.

The velocity of water passing through the copper coils in a gravity heater does not permit it to remain in contact with the heating surfaces long enough to heat the water to a satisfactory temperature for domestic use.

This low temperature water flows through the circulation line and passes directly into the fixture line when a faucet is opened. There may be a large volume of heated water at the top of the tank, still the low temperature water will pass through the heated water and into the faucet and the heated water simply will not circulate to the fixtures.

There also is a bad condition at the tee on the sediment line, similar to Diag. 2.

Connection of the cold water feed to the sediment line is most important, as illustrated in Diag. 4. The sediment line is dropped down approximately 40" from the bottom of the tank, using a tee as shown. The cold water feed then is connected to the run of the tee in order to direct the flow of feed water to the heater and not up through the sediment line to the tank where it would mix with heated water.

Also, if the sediment line is too short, the distance between entry of the feed water and the fixture line is reduced, as shown by the long arrow. If the sediment line is too short, there is always the risk of a short circuit between these two points. The entire volume of water in the tank can be heated and still it is possible to short circuit cold water across the tank to the fixture line.

The hook-up shown in Diag. 4 has been tested for a long period of time and found to be efficient and completely satisfactory for year-round hot water supply in small houses, used with either steam or hot water heating systems.

Oilheating Selling is needed, Shockley tells ESPA Gathering

"LET'S NOT ASSIST our competitor in his selling effort," W. S. Shockley, manager, Fueloil Sales, The Atlantic Refining Co., cautioned the annual spring meeting of the Empire State Petroleum Association, held May 9-10, Hotel Biltmore, New York, N. Y., adding that gas heating is perfectly capable, and is doing an effective job without any assistance from the fueloil man.

Shockley said that during the past year oilheating men had "done a lot more talking than selling," "peddled a lot of pessimism," and that their approach had not always been constructive in nature.

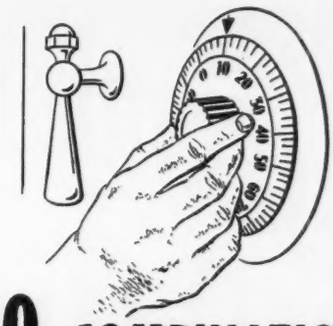
Attributing the lack of a positive program to the fact that selling oilheating had been relatively easy for the past ten years, Shockley told the group that "So far as I'm concerned, I don't feel we can do anything about gas—but we can invest our time, talents, and money so as to brighten our own future in the heating oil business; we can sell oil heat."

Turning to the means by which oil heat might be sold, the veteran fueloil man suggested that the sales organization stress comfort, cleanliness, safety, and the satisfaction to be enjoyed from complete automatic heating service as an alternative to selling gallons of oil, heating oil contracts or cheaper fuel.

Shockley advised the oil men to provide all the necessary means for satisfactory heating by selling a "package deal": 1. Selling the unit, 2. Servicing it, 3. Supplying the fueloil, and 4. Delivering it automatically. In addition, he felt that the package should be supported by automatic degree day delivery to assure your customer of a guaranteed supply; budget payment plans; clean, efficient metered equipment; and clean, neat, preferably uniformed, and well trained delivery personnel.

Shockley pointed out that "The best package in the world is not worth much unless it is effectively and constantly promoted," by an advertising, direct mail and solicitation program.

A New Combination
TO LOWER COSTS . . .



CRISE MODEL FAL-40 COMBINATION
FAN AND LIMIT CONTROL

AVAILABLE WITH OR WITHOUT WINDOW
FULLY ADJUSTABLE FAN AND LIMIT SETTINGS
PROTECTED BIMETAL ELEMENT
ACRO Snap Action PRECISION SWITCHES
NO BIGGER THAN FAN OR LIMIT CONTROL ALONE

Here's a combination you can't beat. It's the Crise Model FAL-40 that performance-wise is equal to any conventional bimetal fan and limit control and is interchangeable with most. A reduction in size and number of parts permits us to manufacture the FAL-40 economically and still maintain highest standards of quality and performance.

The Model FAL-40 Crise has adjustable fan and limit control settings. The fan differential is also adjustable while the limit differential is fixed at approximately 20 degrees.

Many leading manufacturers have already adopted the Crise FAL-40 and thousands are giving excellent service in the field. Available with your brand name if desired.

Write for a sample and quotation.

CRISE CONTROLS DIVISION

ACRO MANUFACTURING COMPANY

COLUMBUS 16, OHIO

Distributed in Canada by Leland Electric Canada, Ltd., Guelph, Ontario

DIELECTRIC
SETS THE PACE with SERVICE

OIL BURNER IGNITION ELECTRODE ASSEMBLIES

DIELECTRIC offers the **only** complete line of top-quality ignition electrode assemblies, bus bars and fittings — maintains the largest stock of the greatest number of designs for day-of-order shipment — is equipped to supply manufacturers' new designs quickly, in any quantity. Uniformity of production is assured by use of specially developed automatic machinery. You can be sure of satisfactory service with DIELECTRIC products. And the prices are always right.

MEMBER OHI OIL HEAT INSTITUTE

DIELECTRIC
PRODUCTS CO., Inc.
125 Virginia Ave., Jersey City 5, N. J.
Sales Representatives:
Boston • Philadelphia • Des Moines
Toronto

To this end he listed three questions which oil men might ask themselves:

"Am I taking full advantage of the help available to me from my supplier in the form of advertising counsel, direct mail copy, employee training clinics, or sales training seminars?

"Do I have an up-to-date, carefully prepared prospect mailing list, and do I use it regularly?

"When did I last personally solicit real estate developers or home builders to point out to them the advantages of installing oil heat?"

Regarding the pessimistic stand taken by some oilheating dealers concerning future inroads of natural gas, Shockley called the group's attention to a local utility that has planned a heavy direct mail campaign, asking the question "Could this be an indication that they are not as sure of their future growth as we seem to feel they should be?"

In summation, the Atlantic fueloil man told the Association that in his opinion the future success of oilheating dealer is directly proportional to his individual effort.

Bright Future

For the industry as a whole, Shockley foresaw a bright future, noting that burner installations were well ahead of last year; home construction, a high potential for oilheating sales, continued to run at a high rate; a large number of homes are still heated with coal offering a chance for conversion and large rural areas still remain undeveloped.

He ended by calling on the dealers to replace talk with action and get out and sell oil heat.

Another talk of particular interest to fueloil men was that given by Marc F. Braeckel, vice-president, Sinclair Refining Co., New York, N. Y., on "A New Concept in Selling," during the second day of the meeting.

Commenting on what he felt was the petroleum industry's failure, as a whole, to develop new markets by passing the responsibility to others, Braeckel pointed out that in the case of fueloil, it was the burner manufacturers and dealers who had built up the demand for oil. "They have been pushing oilheating and made it what it is today," he said. "The burner service operations of fueloil sellers have helped greatly, of course, but, by and large, the oil industry has not carried its share of the load."

Turning to selling, Braeckel maintained that there were two types: selling in an established market, and selling to create a new or larger market where no presold customer exists. It was the latter type of selling where he thought the industry had fallen down on the job.

Advertising, Promotion

"I think we must recognize that our advertising, promotion and other selling efforts are directed toward the first area of selling" the Sinclair man continued, "seeking to convince an existing oil customer that he should buy a certain brand. We build few markets."

Braeckel felt that, besides competing within the family, the petroleum industry should consider also the broad field in which it might compete with entirely unrelated industries. Along this line he remarked, "Certainly no one has to tell you that in the heating field oil is not a necessity. Our friends in the gas and coal industries make that point quite clear."

Calling the Association's attention to the fact that gas' share of the energy market had doubled since World War II, Braeckel reminded the meeting that this had been accomplished by a sharp, coordinated industry advertising and promotion effort. "Individual companies have tied in at the local level" and the result, he stated is that "people who never thought of gas for home heating now buy it for that purpose."

As to how this trend towards gas might be reversed, Braeckel emphasized that the strongest possible selling program in fueloil's history was needed, and that the program should be supported with fuels of top quality, excellent service aimed at providing greatest convenience, and with a market stability that will enable the distributors to provide the largest possible economies.

Drawing his points together he reiterated the theme that "Up until now petroleum has been bought by the pub-

(*Please turn to page 174*)

No wonder competition can't equal this sales success...

Timken Silent Automatic fuel-saving guarantee carries more weight with prospects!

Your point of sale is the prospect's home! Timken Silent Automatic Dealers offer free surveys, test home owners' present oil burners – then offer an exclusive, *written* guarantee of fuel savings over other types of oil burners with the Timken Silent Automatic Wall-Flame Burner – to close the sale!

With a Timken Silent Automatic Dealership, you have the *key* to sales. An exclusive, *written guarantee* of fuel savings up to 25%, that's the strongest, surest profit-maker in the industry. *And it's yours alone.* Timken Silent Automatic Dealers everywhere say they've never won sales so easy!

Timken Silent Automatic goes to bat for *its dealers.* They get year-'round, factory-paid magazine and newspaper advertising and hard-hitting, tie-in promotional material. And they get a generous cooperative plan for effective local advertising. Add to all this the Timken Silent Automatic floor plan, sales-making displays and demonstration equipment, incentive contests, business administration programs, factory help in finding, training and supervising sales and service personnel! There's nothing like it!

Backing up the guarantee—the world's finest oil burner: In test after test, home after home, this famous wall-flame burner has saved home owners up to 25% and more on fuel oil over ordinary oil heating installations! Write today for full dealership details. Address:
Sales Department, Timken Silent Automatic Division, Jackson, Michigan.

Timely Letters get Contracts renewed for Home Fuel Oil Co.

TWO GOOD EXAMPLES of letters soliciting renewal of service and oil contracts are reproduced below. They were sent to the customers of the Home Fuel Oil Co., Ridgewood, N. J., the first in May 1953 and the second a year later.

Both were over the signature of Russell O. Burns, vice-president, and are interesting in that not only do they emphasize the theme of customer comfort, but each employs a different but timely approach.

Predictions

Here's the 1953 letter, which capitalized on the popularity of the "woolly bear caterpillar" and its purported ability to predict whether winters would be severe or mild.

"*Dear Customer:*

"*'Isia isabella' is the proper name of a fine little caterpillar affectionately called by some the 'woolly bear caterpillar.' His or her claim to fame dates way back to the colonial days. It seems that this little bear has eleven segments, some of which are light tan and some of which are brown—therein lies the tale. During the fall of 1947, Dr. Curran of the American Museum of Natural History discovered that Isabel's woolly coat had shrunken down to four narrow segments of dark brown—a severe winter was in the making—according to Isabel—sure enough we had the worst snow storm in 76 years and some might fierce weather. Up to this fatal winter Isabel did herself proud and confounded the experts by correct predictions. This past winter—said Isabel—would be a humdinger—we were loaded for bear and caught a rabbit.*

"*We folks at Home Fuel Oil could not predicate anything as precious as your comfort and health on the idiosyncrasies of a little brown beggar named 'Isabel.' All summer long we are preparing our defenses for the winter ahead—overhauling equipment—delivery and service trucks—snow plows—towing equipment—surveying routes—repairing snow chains—arranging purchase of new equipment—insuring supply—contracting for transport of supply—it's like an army general preparing for a battle—every foreseeable contingency must be examined—weighed and measures taken to establish a margin of safety for the worst the winter can give. So we were prepared for this winter.*

"*Now we are entering a new season—we'll prepare for the worst and hope for the best. We are enclosing for your approval, combination burner service agreements and fuel oil agreement. This is an exact duplicate of last year's agreement, even to the price. In spite of rising costs we have held this down to last year's level. Would you kindly sign agreement and check which services you desire—give us a schedule date for cleaning, if you can.*

"*We all want to say to you, 'thanks to the nicest people in the world, our customers.'*

"*Very truly yours,*
"HOME FUEL OIL COMPANY."

By May 1954 when it came time to send out another letter asking for service and oil contract renewals, Home Fuel and Burns realized that a different theme was called for. So, because gas heating was being advertised aggressively in the company's sales area, the letter refuted some of the gas company's claims. Notice though the positive approach, gas isn't mentioned once!

"*Dear Customer:*

"*Sam, the ancient handy man at our plant, is a homespun philosopher. One day, overhearing me complain about the fickle foibles of the general public, he stopped the show with this calculation, 'Son, the public is divided into two bunches, the guys that tell you how much it was, and them that tell you how cheap it was.' Me, I think that this is over simplification. Somewhere, in the middle maybe, you find the truth about the whole thing.*

"*One of our respected competitive types of heat is hammering at the back door, and we've got to open that door and look him square in the eye. His product costs the consumer 30% to 40% more in comparative conversion, but he has a little gimmick to get around this. Says he, 'install a new unit and we'll heat your house for the same price as oil.' That's very good you say. But, what he doesn't tell you is that you could heat your house 30% to 40% cheaper with a new oil unit, instead of a conversion. Then comes the pitch about service. 'Service costs you nothing'—cheap enough, isn't it? He doesn't tell you that you, and millions of others, have been paying for service for years through the privilege of having a meter in the cellar. Nor does he tell you—most important of all—that they have representatives at this moment hammering at the gates of the public utilities commission for permission to charge for service. Sort of like this Japanese Gent that just died who was playing tick-tack-toe with Mr. Hull at Pearl Harbor.*

Our Business is Comfort

"*All of which brings us back to Sam, and if you can dig down deep, somewhere between, how much it was and how cheap it was you'll find the answer. Our business is your comfort, and we'd better take good care of it. Unlike our friend, we have more competitors than a hound dog has fleas. Any change you want to make in your heating, call us first, we know your problems, our business is heat.*

"*Contract time is here again. Combination service and oil contract is enclosed herewith for your approval. Would you kindly sign agreement and check which services you desire—give us a schedule date for cleaning, if you can, and we'll do the rest. Return agreement to us in the self addressed envelope enclosed—no postage required. Some kind of summer price is coming up. Don't know what it is just yet, more about it later. However, rest assured any price concession or protection will be retroactive to the date of this letter. So, don't worry, we'll protect you. Fill them up.*

"*All of us, including Isabella, the woolly bear caterpillar, who certainly doesn't work with us, want to thank you again for being so nice to us all through the year and through all these years.* "*Sincerely,*

"HOME FUEL OIL COMPANY."

Harness your Potential

S. Cunard & Co., Halifax, makes it profitable for all Employees to sell Oilheating

by
E. L. MacDonald, Jr.*

THIS IS THE story of what one company did when it felt it wasn't getting its share of oilheating equipment sales.

What could we do? Hire more salesmen, a good sales manager, and have him set up an elaborate sales department? Was this our answer, if it wasn't—what was?

New salesmen and a new sales manager would add heavy overhead. The salesmen would have to be trained and they'd command (if proven men) a high starting wage. A sales manager of the calibre we require would come very high and he'd have to be trained in the ways of the industry, as there wasn't one good enough in this area to suit our requirements.

Our retail coal sales were falling off and the retail coal market could not be maintained in any way. Just nobody was building a new home here and installing coal heating. Shouldn't we then be anticipating finding oil division appointments for our better coal division members?

Shouldn't all office personnel, cashiers, order clerks, etc., who wait on customers at the counter, talk with them on the phone, be able to answer intelligently questions pertaining to oilheating and cooling equipment? Our thought was: "Shouldn't we all be working for the company rather than for a department? Shouldn't we all be interested in getting an order for the company regardless of what it is if the company would benefit?" We thought so, and then and there decided we had a problem called, "Divisionalism" and "Departmentalism."

We have upwards of 55 personnel working in the main office and our three branches, and upwards of 75 drivers, helpers, yardmen, mechanics (motor transport) and installation men (our burner service men are on the office payroll—if you want to know why, drop a note to the author on your company letterhead).

What a potential we have here we thought—why go out and hire men, why not harness the terrific potential we already have? Let's put all these people to work for us.

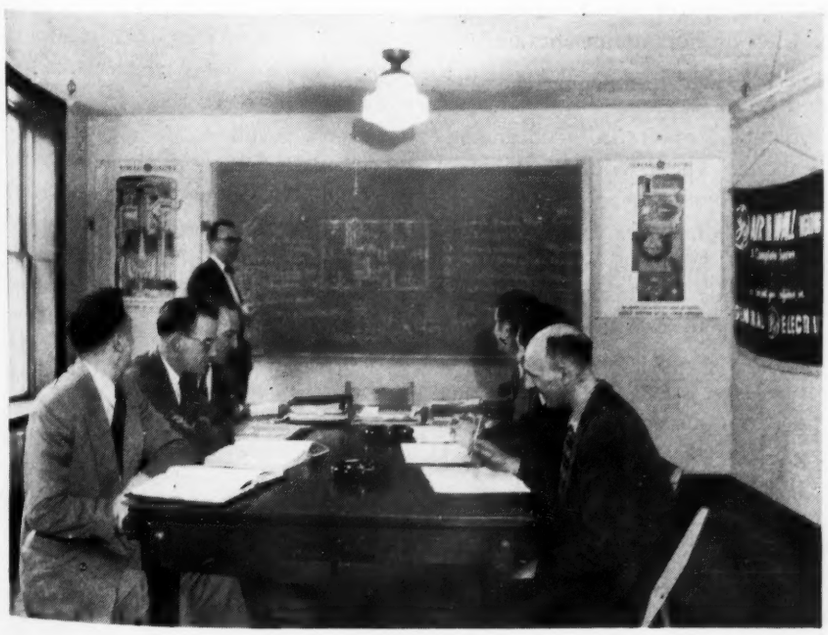
Okay, here was the potential. How do we get them trained, happy to do this extra work, and what course shall we follow?

First, we had to think up a bonus or commission scheme—this posed a real problem. We felt we shouldn't offer a commission for completed sales only, because only the salesmen who closed would benefit and there'd be dissension in the ranks. Also, we had a number of very senior coal staffers who have worked hard for years selling retail coal on a straight salary basis. If we started giving relatively new employees salary and commission, keeping the coal boys on straight salary, that wouldn't be fair.

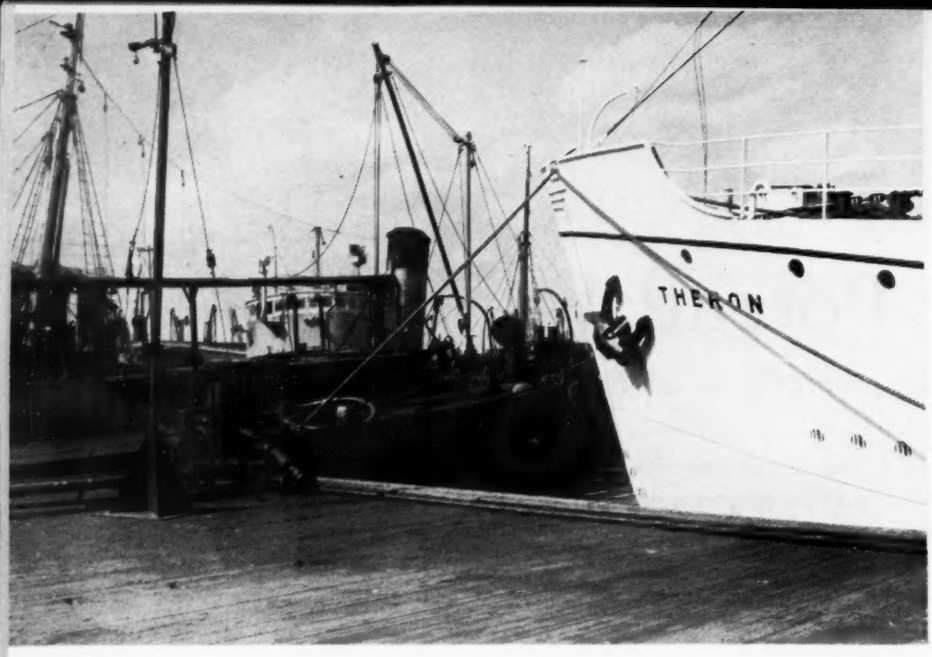
The coal boys would be responsible for about 75% of the best leads for oilheating equipment. They visit all customers at least once and sometimes many more times per year and if a customer hedged or suggested they were thinking of oil, the prospect was passed on to the oil division with all possible information. There again one group would work hard on salary, feed almost sure sales to another who, in theory, really only had to make a survey, answer a few questions and bring in a signed contract—not fair to one and too easy for another.

We thought we might have teams, a coal man and an oil man who would work together and split commissions.

*Vice-president, S. Cunard & Co., fueloil and oilheating dealers, Halifax, Nova Scotia.



H. B. MacFarlane *conducts a training class, instructing the "boys" in heat loss calculation for warm air heating.*



. . . . Harness your Potential

At Cunard's *deep water oil terminal, here's the Theron fueling prior to starting on a seal hunting expedition. The vessel in the foreground at the side of the dock is Imperial Oil's tanker discharging furnace oil. The other ship is a fishing trawler tied up at an adjoining dock but taking on fuel through a pipeline that extends from Cunard's wharf.*

That was thrown out, because only the folks in the coal sales department and oil sales department would benefit—we wanted all members of the staff to be able to get into the act. Harness all our potential, not a percentage of them.

Many other ideas and gimmicks were thought of and discussed, but none seemed to suit us. At last we felt we'd hit upon a scheme. Why not take a percentage of sales each month and divide it even among all staffers —sounded okay—everybody would participate in the split, therefore, everybody should be willing to work and dig up leads.

We investigated past months sales in dollar value, took a percentage of it and even multiplying that by 3 (we figured we'd triple our sales) and dividing the result by 130, the split seemed too small to excite anybody. What was wrong with this scheme, it seemed out of balance somewhere; sure the expected increase wasn't sufficient for the number participating, but why? Well the answer was simple. We figured our potential on the basis of what the office personnel could produce with a little help from the "outside" boys. They, of course, couldn't be expected to produce as many desirable leads or sell as much equipment. That was the answer.

What then could we do so that no noses would be broken? We wanted harmony, we wanted their help, we didn't want them to feel that they'd been left out or weren't good enough to participate with the "white collar" personnel. (Our union and company relations are probably one of the best in the world, and we didn't want to create any friction.)

We solved the problem this way. We used two schemes—they worked as follows:

Scheme No. 1 involved all office payroll staffers; this, which included oilburner servicemen, comprised around 55 persons. At the end of each month the oilheating equipment sales would be totaled and we'd take 2% of the amount and split it evenly. For the first 3 months, to get the scheme rolling and work up enthusiasm everyone would participate, but after that in order to participate one had to show interest and turn in active leads. (Definition of active lead—one where the person turning it in had already spoken to the prospect about our equipment and had obtained the prospect's permission to send out a salesman—just names of acquaintances were no good and not acceptable. The ice had to be broken.)

This would prevent free loading; as much as management hated to admit it, we felt there would be those who'd "ride the bus" and not pay their fare. It was not our desire to cut names off the bonus list indiscriminately—this would cause hard feelings and lessen our potential—but we did want to protect the "workers" and keep everybody on the ball. If, for instance, an employee turned in one, two or three leads this month—whether they resulted in sales or not—and was unable to turn any in the next month, they certainly wouldn't be dropped. We just didn't want indiscriminate free loading.

At the end of each month the bonus checks were made out to the employee and mailed to his home with a letter and envelope addressed to "Mr. and Mrs." (where applicable). Our idea was that the mail would be delivered while the breadwinner was at work, would be opened by his better half who then would know how her mate was doing. We hoped that we thus would gain another person working in our behalf, looking for leads and encouraging the breadwinner to do a little extra so that the check next month might be a little bigger.

Scheme No. 2. For the outside or weekly payroll personnel — approximately 75 coal and oil drivers and helpers, garage mechanics, yardmen, oil gauges and loaders. We decided to give them a straight 2% on leads they furnished which resulted in the sale of oilheating equipment. If a driver turned in a lead which resulted in the sale of a conversion burner and 2—200 gallon tanks valued at $450, he'd get a check for $9. These folks then would benefit on anything they turned in; they had a scheme which would pay off on any work they did and they weren't excluded.

Here we felt we had everybody covered fairly. We were just about ready to roll, when we hit upon another idea —a booster—an additional sales promoter. For the office payroll personnel we decided to hold "The 1st Running of the Cunard Sweepstake." We wanted something to instill the spirit of competition and something to give us a medium for a little fun at sales meetings, etc.

The 1st Running of the Cunard Sweepstake was announced with the following purses:

1st—Two weeks' additional vaca-

"Ed" MacDonald *discusses the first running of the Cunard Steeplechase with the two front runners, Bill MacKay and "Mac" MacFarlane. The thermometer at the left of the picture keeps track of sales made. MacDonald explains that the totals on the Steeplechase board and the thermometer don't jibe, but the difference "represents the equipment I sold when I wasn't busy at something else."*

tion with pay and a brand new $100 bill.

2nd—One week's additional vacation with pay and a brand new $50 bill.

3rd—$25.

4th & 5th—$15 each.

6th, 7th & 8th, 9th & 10th—$10 each.

The actual cash cost to the company was only $255 and we thought it would be an interest retainer and sales stimulator. The prizes would be awarded to the salesmen whose yearly total sales were the greatest.

We felt that the success of this whole scheme depended on first obtaining and then holding the interest and enthusiasm of all. So here's how we handled this. In our office building we had a small suite of offices unrented and those we grabbed for our sales promotion office. The proper furniture was obtained and the side walls plastered with banners and advertising materials of the different companies we represent. We also purchased a blackboard 8 feet long and 4 feet high which we mounted on the front wall. (This paid for itself in the first two weeks.)

We had a sweepstake board made up to show the position of each "horse" and how far he was ahead of his "stablemates"; also a large thermometer was put up on the wall graduated in $25,000 degrees, with the starting point $25,000. We even dug up out of the archives a picture, 1827 vintage, of Sir Samuel Cunard which we cleaned and hung up. We had our schemes, and our headquarters so we took off our coats and went to work.

We bought a loose leaf book to record our prospects and sales. We wanted to have a record of the prospects, date, name, address, by whom turned in, to what salesman given and the end result of each. We wanted to record the name and address, value of equipment bought and salesman's name. From these records we'd know exactly what happened to each prospect, we could keep our sweepstake thermometer up to date and would have exact records of sales so that it would be a simple matter to total them and determine what the monthly bonus was to be. Here too was a record of who turned in active prospects.

Sales meetings were held each morning at 8:15 attended by the Oil Division Manager, the Service Manager, the Credit Manager, the manager of our ventilating, airconditioning and sheet metal department, three full time equipment salesmen and two salesmen from our coal division, who were picked for oil division training to sell on a part time basis.

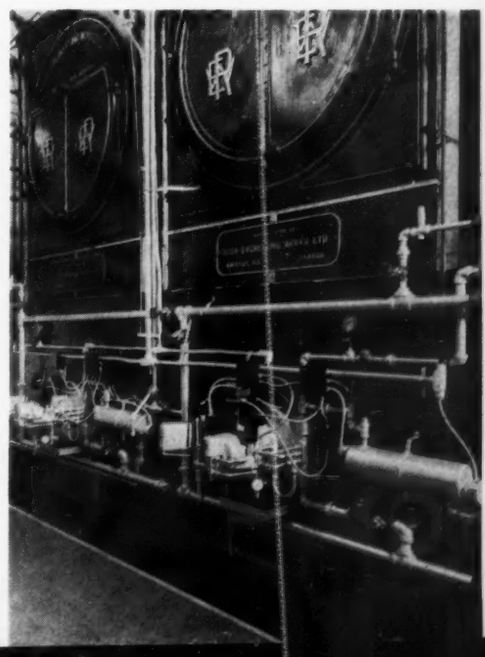
The meetings were conducted by the different managers and the senior oilburner salesmen and for the first two months were training sessions (45 minutes to 1 hour each). We all went back to school, learning how to make proper surveys, what an oilburner was and why, how hot water, steam and warm air units operated, what domestic hot water hookups were, what costs were involved, what customer advantages there were to each. The desired end result was to have nine men thoroughly capable of handling any type of sale from start to finish.

At the meetings each morning yesterday's prospects, problems and completed sales were discussed. Today's prospects were discussed and information passed around which might help close the sales.

The blackboard was invaluable, we couldn't have gotten along without it, particularly during the training stages. Drawings and sketches helped us understand each other's problems better when we could see them on the board and it taught us how to draw our thoughts as each person was required to get up in front of the group, and

(*Please turn to page* 171)

A Cunard *installation at the Halifax Infirmary. Two Petro Model WD-7-AH No. 6 burners were put in here seven years ago. The 20,000 gal. storage tank is installed underground across the street in the only location that was available. In winter both burners run almost 24 hours a day, 7 days a week and have been doing so since 1948.*



Anticipating Degree-Days

Progress Report on the Brosché Method of six month weather Forecasting

Just about two years ago Lyle E. Brosché prepared an article for us in which he outlined three seasons' experience with a weather forecasting technique he had developed. His Method consists of predicting anticipated degree-days six months in advance so that it has particular application in the fueloil industry. The accompanying article reports on refinements and improvements in the Method.

IT IS NOW POSSIBLE to predict accurately temperatures for a six-months' period in advance for a given geographical point. This new aid to industry has been developed by Lyle E. Brosché, meteorologist, who now has completed five years of certified temperature forecasts.

The July 1953 issue of FUELOIL & OIL HEAT carried an article by Brosché reporting on his then three-year series of predictions for 1950-51, 1951-52 and 1952-53 for the New York and Chicago areas. Those predictions indicated that during the three-year period Brosché attained 94.7% accuracy on overall forecasts.

Brosché's continued refinement of his method has resulted in a degree of accuracy of 98.45% for the years 1953-54 and 1954-55 for the New York and Chicago areas for a six-months' period from October 1 through March 31 (See Chart I).

"Postcast" study Test

Lyle Brosché, who has been in the meterological profession for 20 years, mostly with Pan American World Airways, but also on a sometime loan to the U.S. Weather Bureau, is a perfectionist. Not satisfied that his forecasts had attained a more nearly accurate temperature forecasting for a longer forecast period (six months) than had been ventured by other meteorologists, Brosché ran a "Postcast" study test based on meteorological data dating back to the 1931-32 season. (See Chart II). He found from his postcast that the Brosché Method generally came closer to actual temperatures than normals throughout the 24-year period. The average error for "normal" was almost twice as great for the entire period.

The Brosché Method is a highly specialized technique introduced five years ago as a solution to the problem of longer range temperature forecasting. The Method, designed with the needs of the oil industry in mind, bears no relationship to procedures commonly used by other agencies in the preparation of long or short range forecasting, such as airmass or analogue techniques.

The new Brosché Method last year began offering greater projection of accurate temperature forecasting with the addition of an "Indicator" which is made available in mid-July, introducing in effect a nine-month forecast. This advance general forecast will furnish Brosché clients with data over a 200 degree-day range for the forthcoming heating season October-March. Primarily, it points to the expected trend for the critical six-months' period and allows clients to take preliminary steps in their operations well in advance of the final forecast issued October 1. Last season's indicator forecasts were 100% within the range forecast.

With each succeeding year the Brosché Method has gained in stature, the high point coming during the season just past, when the actual degree-day record rose sharply in contrast to the warming pattern established since the season of '48-'49 (particularly noticeable over the East).

Taking his record for New York City alone where he worked out his interesting substantiating "postcast" study going back to the season of 1931-32, it is interesting to note that the greatest deviation of Brosché forecasts from actual temperature was 7.5%, while the greatest deviation of normal from actual was 18%, this costly normal error occurring twice, in 1931-32 and in 1948-49. From the 24-year record, the probability exists that "normal" will have an error 10% or greater every three years. The comparison

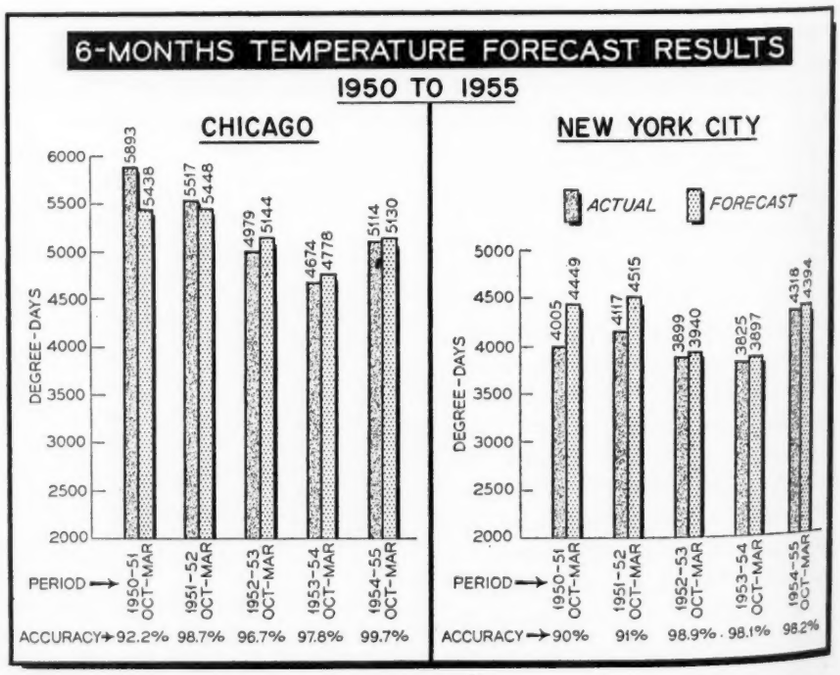


Chart I. *Results of forecasts made during the last five heating seasons, demonstrating the improvement in accuracy as refinements were made in the Brosché Method. Comparisons are made here between actual and forecast degree-days.*

study shows that the Brosché Method was closer to actual in 19 out of 24 years. Of the five cases where normal was closer, the difference was negligible.

The Method was devised by Brosché in 1950 as he says, "To break the costly stranglehold of 'erratic normals'," the only standard employed by the heating industry. Brosché set to work on a solution after noting that the reliance on normals had been responsible for real losses to both the heating and petroleum industries because of inability to schedule production and distribution in advance of each season.

How Service works

In brief, here is how the Brosché service to clients works: On or before July 15 Brosché furnishes his clients with his "Indicator" forecast for the coming October to March period, giving the total number of degree days within a 200-degree-day range the client can expect. Finally, on or before October 1 Brosché provides the final forecast which consists of a pinpoint total of degree-days for the six-months' period immediately ahead.

This degree-day total forecast is made on the basis of one of five divisions, namely: *Atlantic Division,* 80° W. Long. to Atlantic Coast; *Central Division,* 80° W. Long. to 90°; *Western Division,* 90° to 104°; *Rocky Mountain Division,* 104° to 115°; and *Pacific Division,* 115° to Pacific Coast. The Southern boundary is the 35th parallel and the Northern boundary is the United States-Canada border. The Brosché client as part of the service is also given his choice of cities within the Division selected for city-by-city forecasts.

Although no great need has been established for continuous checking as to major temperature swings within the forecast period, Brosché does maintain such a check and works closely with his clients during the forecast period.

Brosché's present clients include several major companies.

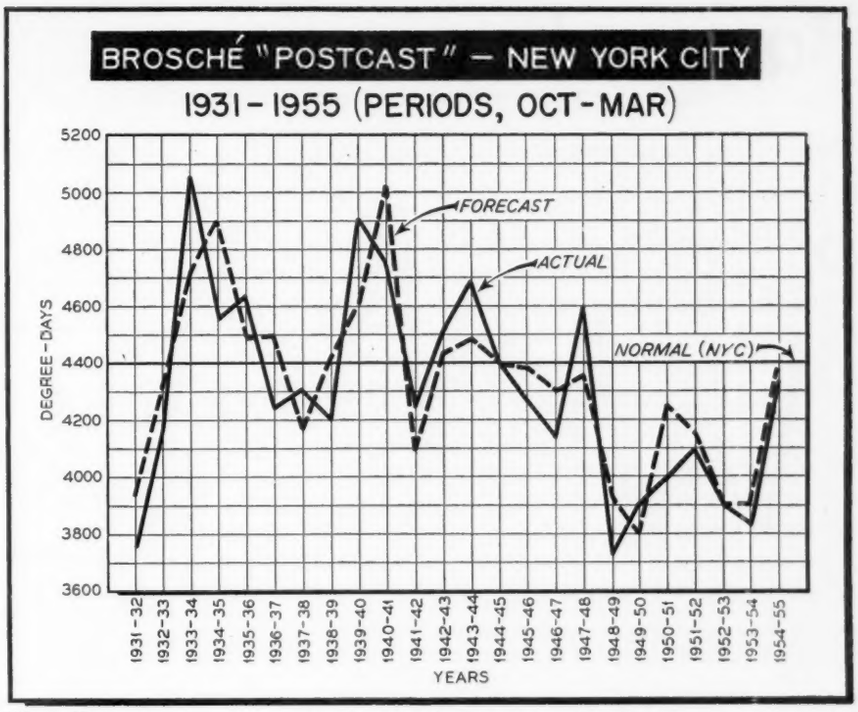


Chart II. *Postcast study test for New York City extending back to 1931. Brosché found weather forecasts he made generally came closer to actual temperatures than did normals throughout the period.*

Accuracy Analysis*

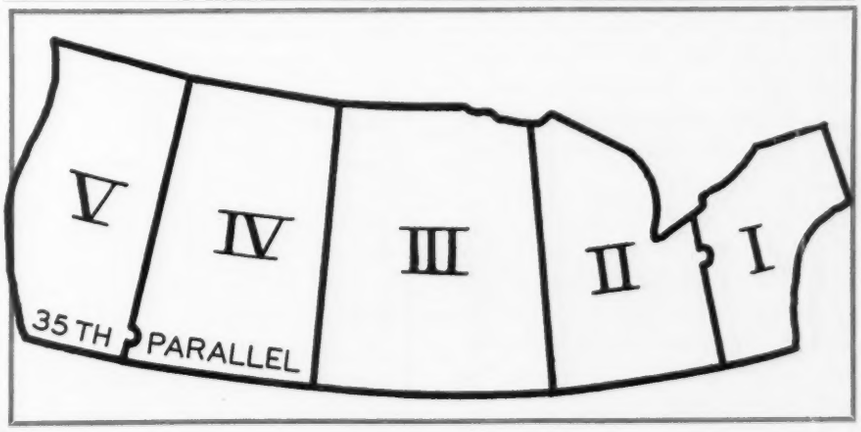
Oct-Mar.	% Normal† Variation from Actual	% Brosché Variation from Actual	Oct-Mar.	% Normal† Variation from Actual	% Brosché Variation from Actual
1931-32	18.0%	5.6%	43-44	6.0%	4.3%
32-33	5.8	3.6	44-45	0	0
33-34	12.9	6.9	45-46	3.8	3.5
34-35	3.3	7.5	46-47	6.3	4.1
35-36	4.8	3.3	47-48	4.4	5.4
36-37	4.3	6.2	48-49	18.0	4.8
37-38	2.3	3.0			
38-39	4.8	5.5	1949-50	13.1	2.1
			50-51	10.0	(6.3)
1939-40	10.6	6.5	51-52	7.3	(1.7)
40-41	6.8	6.4	52-53	13.1	(0.5)
41-42	4.0	2.8	53-54	15.0	1.9
42-43	2.2	1.6	54-55	1.9	1.8

†Normal = 4400 degree days, October 1 through March 31.

*Comparing normal vs. Brosché method. Data from New York Postcast.

Postcast figures in parentheses show increased accuracy over forecast issued annually between 1950 and 1953, because the Postcast was prepared in 1953 and reflects further development of the process during the three year period.

Last two figures under Brosché column—for years 1953-54 and 1954-55—are actual forecasts. Postcast ends with the 1952-53 period.



Five divisions *established by Brosché for his degree-day forecasts. Southern boundary for each division is the 35th parallel; northern boundary is the United States-Canada border.*

Boston Exposition

Oilburning equipment on display at Eastern Show, June 7-10

DEALERS WILL MEET in Boston at the Statler Hotel, June 7-10, for the Eastern Biennial Exposition of Oil Heat and Domestic Cooling.

Special emphasis is being placed on the exhibits, and the Oil Heat Institute of New England (the sponsor) has planned no meetings, sessions, banquets or luncheons to compete with the equipment being shown.

According to C. Everett Elliot, president, OHI of New England, more than 100 manufacturers of oilheating equipment and services will have displays. Cooling equipment and liquid fertilizer manufacturers will also maintain booths.

Almost the entire mezzanine floor of the hotel will have exhibits of light and heavy oilburners, boiler and furnace-burner units, controls, accessories, supplies, fueloils and fueloil delivery equipment.

Fred N. Beckwith, exposition manager, pointed out that dealers attending the show can spend all four days seeing and studying the exhibits, meeting old friends and exchanging ideas with them.

It is estimated that some 5,000 dealers will attend the show coming from every section of the country. Several manufacturers are planning dealer meetings during the week.

Beckwith said that the addition of cooling units to the exposition will enable dealers to evaluate the possibilities of going into the airconditioning business. He stressed that the oil heat dealer has a ready-made prospect list for cooling sales. Nearly every major manufacturer of oilheating equipment has companion cooling units giving the dealer a wide choice of models, he added.

The show opens Tuesday, June 7, at 1 p.m. until 10 p.m. Wednesday and Thursday the exposition will be open from 1 p.m. until 10. On the final day, Friday, June 10, the show will open at the usual 1 o'clock time, but will close at 5 p.m.

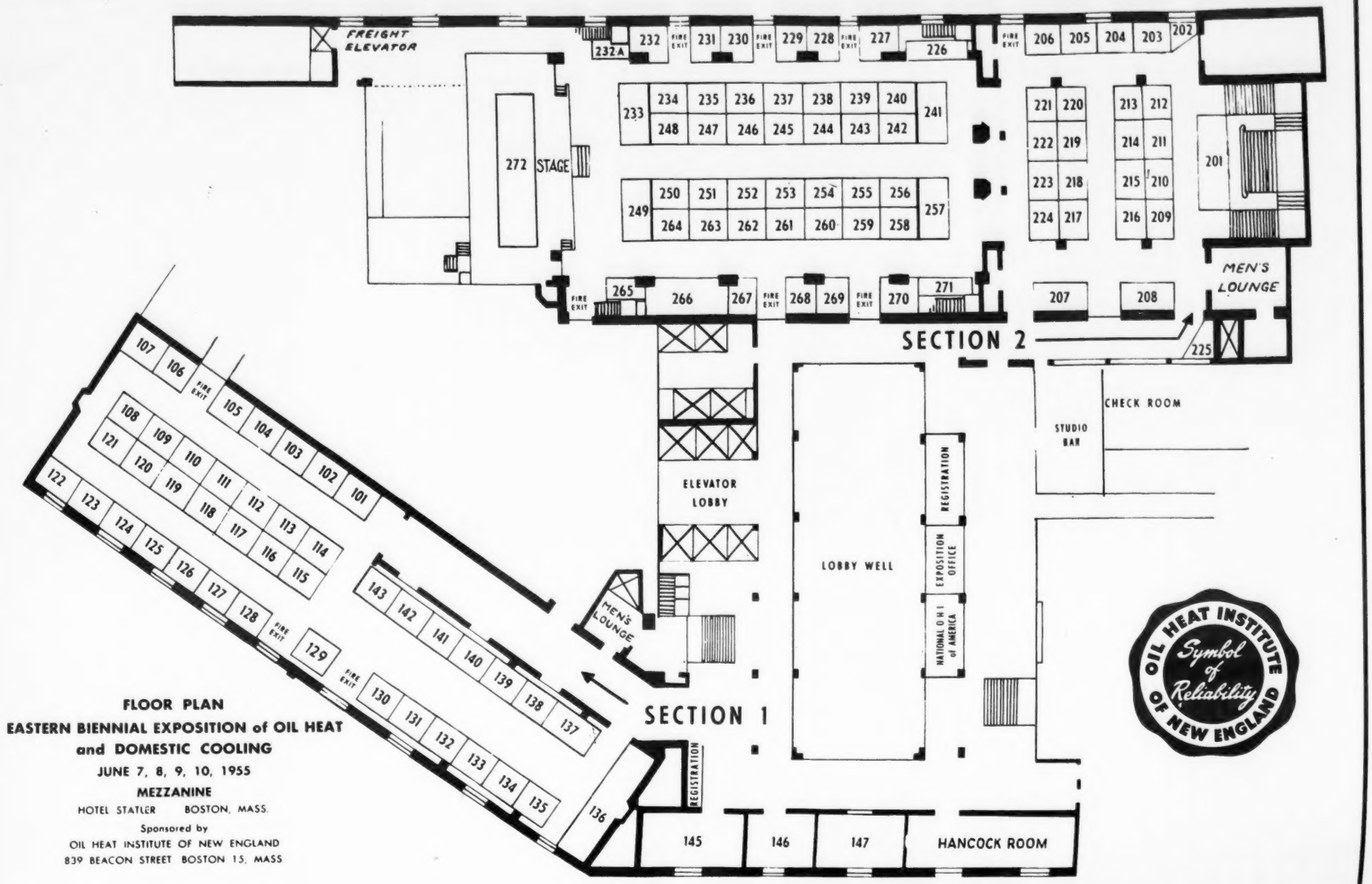
The Boston Convention Bureau, 80 Federal St., Boston, has been in charge of making hotel reservations. Thomas G. Colter is chairman of the show.

List of Exhibitors

Eastern Biennial Exposition of Oil Heat and Domestic Cooling

(*As of May 16*)

Adelta Manufacturing Co., Inc. (243)
Air Conditioning Engineering Co. (246)
American Tube Products (139)
Armstrong Furnace Co. (244)
Auto-Flo Corp. (242)
Automatic Devices (202)
Bacharach Industrial Instrument Co. (230)
Bell & Gossett Co. (253)
Bettendorf (113)
Boston Machine Works (130, 131)
Brody Distributors (145)
Brody Equipment Corp. (203, 204)
Burnham Boiler Corp. (142, 143)
Char-Gale Mfg. Co. (234)
Cleaver-Brooks Co. (259)
Cleveland Steel Products, Toridheet Div. (208)
Columbia Boiler Co. of Pottstown (209)
Combustion Control Div., Electronics Corp. of America (213)
Combustioneer Div. (146)
Commercial Filters (254)
Condensation Engineering Corp. (128)
Delco Division (268, 269)
Decker Bros. (258)
Dielectric Products Co. (239)
Dole Valve Co. (224)
Domestic Engineering Co. (123)
Eckhart Mfg. Co., Inc. (214)
Econo Products Co. (104)
Electrol Burner Mfg. Co. (219)
Eureka-Williams Co. (257)
Everhot All-Copper, Inc. (245)
Fertilene Corp. of Am. (228)
Field Draft Control (241)
Fitzgibbons Boiler Co., Inc. (207)
FUELOIL & OIL HEAT (135)
Gabriel Stern, Inc., (Virilium) (124)
General Electric Co. (Controls Div.) (133)
General Fittings Co. (249)
Gerlach-Roscoe Co. (General Filters) (112)
Gerstein & Cooper, Inc. (127)
Gulf Oil Corp. (125, 126)
Hayward Oil Burner Corp. (250)
Heating & Ventilating (232-A)
Heat-Timer Corp. (138)
Hoff Manufacturing Co. (121)
Iron Fireman Mfg. Co. (SelecTemp) (272)
Kaustine Co., Inc. (260)
Kek Boiler Cleaner (116)
Little Burner Co., Inc., H. C. (226)
Lynn Products Co. (211)
Manville Boiler Co., Inc. (266)
Marietta Metal Products Corp. (205, 206)
Massachusetts Trade Shops School (129)
Master-Craft Supply Co. (105)
McDonnell & Miller, Inc. (212)
Modern Equipment Corp. (234)
Morse-Smith-Morse Co. (217)
National Radiator Co. (220)
New England Home Equipment Dealer (271)
New England Technical Institute (225)
Oil Equipment Mfg. Co. (140)
Oil Heating Economy Corp. (265)
Quiet Automatic Burner Corp. (106, 107)
Portmar Boiler Co., Inc. (101, 102)
Pullman Vacuum Cleaner Corp. (218)
Purolator Products, Inc. (261)
Radiant Utilities Corp. (262, 263)
Ralph Mfg. Co. (240)
Robot Auto-Heat Corp. (227)
Scully Signal Co. (221, 222)
Slant-Fin Radiator Corp. (141)
Spi-Rol-Fin (103)
Wm. Steinen Mfg. Co. (114)
Stetson Co., M. D. (122)
Sun-Ray Burner (251, 252)
Swett Bros., Inc. (Duc-Pac Prefabricated Aluminum Fittings) (223)
Taco Heaters, Inc. (216)
Thatcher Furnace Co. (247, 248)
Thermo-Products Co. (132)
Timken Silent Automatic Div. (233)
U. S. Burner Div., The Carlin Co. (237, 238)
U. S. Machine Div., Stewart-Warner Corp. (201)
Union Electric & Mfg. Co. (264)
Utica Radiator Corp. (134)
V & E Products (137)
Walker Mfg. & Sales Corp. (210)
Waltham Oil Burner Co. (255, 256)
Watts Regulator (115)
Weatherall Engineers (235, 236)
Weil-McLain Co. (215)
Windmaster Corp. (117)



FLOOR PLAN
EASTERN BIENNIAL EXPOSITION of OIL HEAT and DOMESTIC COOLING
JUNE 7, 8, 9, 10, 1955
MEZZANINE
HOTEL STATLER BOSTON, MASS.
Sponsored by
OIL HEAT INSTITUTE OF NEW ENGLAND
839 BEACON STREET BOSTON 15, MASS

OIL HEAT INSTITUTE OF NEW ENGLAND
Symbol of Reliability

fuel oil & oilheat

OILHEATING FOR BUILDERS

Oil has several Advantages that more than offset cheaper gas Equipment

by
Irwin Jalonack*

A BUILDER USING OIL as a fuel has a number of advantages over his competitors using gas or electricity. Some of the advantages have not been clearly recognized by the builder. In this short discussion we shall be mostly concerned with competition from gas heat since it is pretty well understood that electricity costs considerably more than the other fuels in most areas.

One very important consideration sometimes given too little weight has to do with the income level that qualifies a family to buy a particular house. When a person wishes to purchase a home he must first have the necessary down-payment and then he must prove that he has adequate income.

In examining the income qualifications, consideration is carefully given to the total yearly expenditure that a buyer will have, because no mortgager has any desire to foreclose on a home because of the inability of a mortgagee to pay. It should be understood that the mortgager is interested only in regular payments and that the house is simply security for the loan.

Now it may not seem obvious that there is a strong connection between the use of oilburners and the economic considerations just described, but there is . . . and we shall show it.

On even a small home there can easily be a difference of $36 a year in operating cost between oil and gas fuel, in Eastern states often much more. This may seem insignificant but by the general rule of thumb, which says that a man's total housing cost must not exceed one week's income, we notice that the purchaser would have to earn $3 more each week to buy the gas heated house than he would with an oilheated home.

It might not seem feasible that a builder could lose sales because a man earned $76 a week and not $79, but this nevertheless is true because the qualification line is drawn hard and fast. If you let the $76 earner qualify when he should make $79, how about the chap who makes $75 or $74? The line has to be drawn somewhere, and for every additional dollar per week required, quite a few prospective owners are disqualified.

Looked at from a slightly different angle the cost per year to the homeowner for housing expense is about $6.50 for every $100 of mortgage. Thus, a difference in fuel costs of $36 per year is the equivalent of more than $500 on the cost of the house. Any builder of low-priced homes realizes the effect on sales of a price differential of $500.

Builder controls job Progress

In addition to these important considerations a builder using oil heat is in an advantageous position for progress control of the job. He does not have to depend on the extension of gas mains or laterals to get houses ready for delivery.

The difference between this work and the rest of his job (except the electric lines) is that the builder has control over and can do something about the house construction, but gas main installation is up to the utility.

Even with good intentions on the part of the utility company, there are often times when they cannot get their piping in on time, and I have seen hundreds of houses completed except for gas installation. With oilheating and electric cooking there can be no holdup as described.

With gas underground lines the whole building job has to be geared to piping installation since the streets and landscaping cannot go ahead if they are subject to being torn up.

Most people are aware that the original installation of oil heat is more costly than gas heat. What they don't know is that the difference in cost to the builder is really not great. A builder who uses oil heat can make a great deal out of the fact that he is using a costlier and better system than his competitor who uses gas. He can capitalize on the yearly savings he is affording and thus enhance his reputation as a reliable and honest builder.

Actually all of the advantages that a consumer has in using oil heat are advantages to the builder if he will point them out to the prospective purchaser. The safety and economy of oil heat can be a sales stimulant.

Temporary Heat

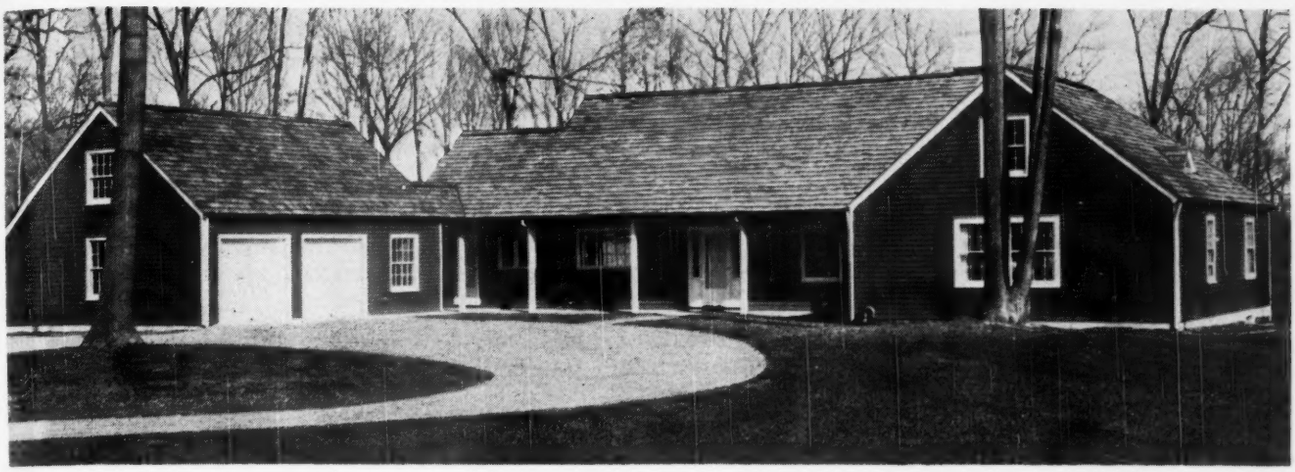
When a builder has houses under construction during cold weather it is frequently necessary to keep them heated. This heating is for the benefit of the workmen and also to keep the plumbing pipes from freezing. Again, this construction heating is vitally necessary when a house nears completion because plastering, spackling, painting, etc. require a warm house.

The cost of fuel for this purpose gets to be pretty high and the builder is the one who must pay for it. Since there is no cooking or domestic water heating to use the higher brackets in the gas rates, the cost of gas fuel is quite high; fueloil has only one price.

This builder's heating cost is a hidden factor, but it is there nevertheless, and the difference between gas and oil for this purpose alone could easily run $40 to $50.

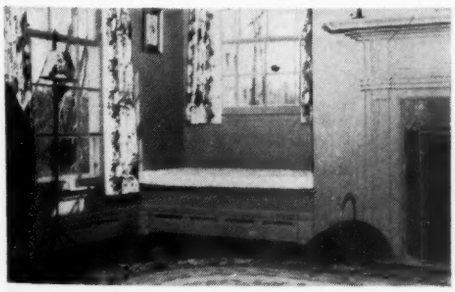
We have been convinced for quite a number of years that oilheating works out much better for the builder than gas heat, everything considered. There never was a time when we couldn't have bought gas heating equipment cheaper than the oilheating equipment used, but we always felt that we were pursuing the wiser course with oil.

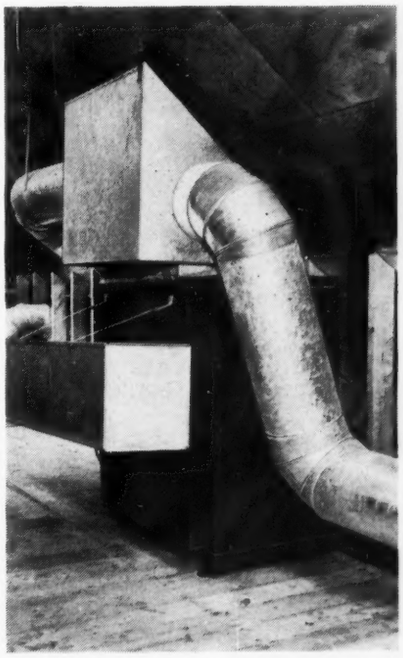
*Jalonack retired this year as vice president in charge of construction for Levitt and Sons, the nation's largest home builders. He is now serving as a consultant to several clients identified with building and also with FHA in Washington. He has generously consented to write a series of articles on oilheating in the building market, of which this is his opening statement.

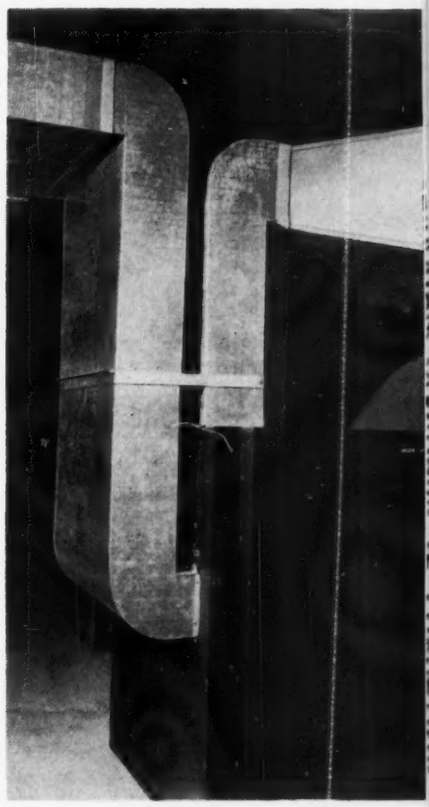


Burnham uses split System of Heating and Cooling

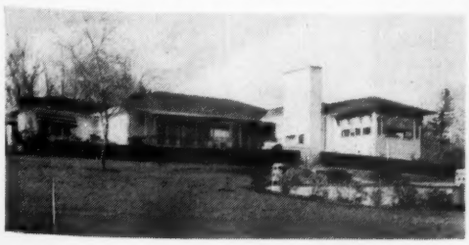
To achieve effective *year 'round comfort Burnham Corp., Irvington, N. Y., is highly in favor of the split system method of heating and cooling. Two of Burnham's installations are shown on this page. The house above is heated by Base-Ray radiant baseboard. The one below has the radiant baseboard system. Cooling was done by Burnham's Hide-Away units. In the Long Island house the unit was put in the attic with ducts leading directly to ceiling outlets. Living room of the home shows how the baseboards fit into the decor of the house.*







The house below *is in South Norwalk, Conn., The Hide-Away is in the basement, (far right) but again outlets are in the ceiling for proper distribution of cooled air as shown in dining room. The unit has an air-cooled condenser so no water or plumbing are required. The forced hot water systems supply plenty of water for laundry and kitchen.*



Allied liquid Fertilizer

Advertising, employee Contest and good public Relations do sales Job in Cleveland

LAST YEAR with one truck equipped to do lawn spraying, Allied Oil Co., a division of Ashland Oil & Refining Co., Cleveland, made a profit on a total billing of $6,200. This year the company has outfitted five trucks and has five sub-distributors to whom it sells the product to be applied by their own trucks.

To keep these trucks busy and profitable, Allied started early in the year to merchandise its liquid fertilizer. Newspaper space was taken, and a booth maintained at the local flower show. In a contest for employees, the company had cash prizes totaling $1,500 with a grand prize of $500 to the employee selling the most lawn spraying jobs.

W. H. Winters, assistant treasurer, reported at an OHI roundtable in Chicago that some 2,600 jobs had been sold through employee efforts and other sources. He calculates that each truck can work 156 days in the season and it can make 12 applications a day with over 6,000 sq. ft. in each.

Incidentally, the average application last year covered 6,037 sq. ft. The residential average, however, was only 4,300 sq. ft. The company has some industrial plants on its lawn spraying list, including one motor company with two and a half acres of lawn.

By April 13 the employees alone had sold 458 orders for 1,110 applications covering 4,943,000 sq. ft. One salesman started in the middle of January. He started selling while there was still snow on the ground, but reports that only on rare calls were the people not interested.

To back up the personal selling considerable advertising had been done. One newspaper ad brought in 81 coupons—which were orders not requests for additional information. It also brought in a lot of telephone calls. The ad cost $700.

This spring the company sent out 10,000 pieces of direct mail which brought in 116 orders. The cost: $700. The folder told the fertilizer story and included a business reply card for orders.

When figuring its advertising budget Allied anticipated spending $3,000 for each of its five trucks outfitted for fertilizer work. All of this hasn't been allocated yet.

The employee contest was based on a point system. For each order of one lawn application one point was given. If the same customer bought three or more applications the employee received one extra point in addition to the points for the individual applications. Cash awards were given to all who accumulated more than 20 points. Each contestant was assigned to a team and the members of the high team won an additional prize.

No territories were assigned. A job could be sold anywhere within the area served by Allied which covers the Greater Cleveland Area, including suburbs.

A manual was issued stating the ground rules of the contest and giving a lot of helpful information on selling the service. It included a brief history of the science of fertilizing the soil. It pointed out the disadvantages of dry plant foods and went into a lot of detail describing how Allied Liquid Fertilizer is applied.

The company supplied the amateur salesmen with typical questions they might be asked along with accompanying sound answers. It warned: "The liquid fertilizer contains no weed control. Many customers may ask you about adding certain weed control chemicals to the solution. This is not possible because all lawn weed control chemicals are toxic to certain types of plant and agricultural life . . . Your answer to the question of weed controls can be explained on the basis that generally a well-fed, healthy turf is free of weeds."

Employees were told how to estimate the size of a lawn and thereby determine cost per application.

The manual pointed out that the employees would be representing the company and thus a high standard of ethics was expected. Advice on salesmanship was included and some tips from the manual are as follows:

"Remember to keep your story as simple as possible."

"If the prospect asks you questions that you can't answer, don't try to bluff. Explain that you don't know, but that you will find out for them."

"If you tell your story in simple terms and be truthful at all times, you will interest a lot of people and make many friends."

To keep interest stirred up in the contest a number of bulletins were issued. They reported on the status of the contest not only in terms of individuals and teams, but also what business sold meant in terms of keeping a truck busy. For instance on March 24, there were 1,006 orders booked which equaled 11.4% of the company's capacity or enough business to keep one truck busy for 87 operating days.

By March 31 the bulletin reported enough business to keep all the trucks that could be put into this service busy for more than two weeks.

Throughout the campaign employees were kept aware of the outside advertising being done by the company. The bulletin kept them notified of publicity that had been placed.

Good public relations is of great concern to Allied. The company makes a practice of sending a postcard to the homeowner ten days ahead of the scheduled date for application of the fertilizer. Oddly enough some men order the work done without remembering to mention it to their wives, and when the driver gets to the house, the wife doesn't want the service. The postcard tends to get such difficulties ironed out in advance.

After the lawn has been sprayed the owners get this letter.

"Your lawn has just been treated with Allied Liquid Fertilizer. This application of plant food has provided the necessary nutrients for improved thick green foliage, stronger and rapid root growth, and added resistance to drought and disease, in a balanced formula specially recommended for this area.

"Lawns, the same as most plant life, require, in addition to adequate food, water and the basic elements of sunshine, temperature, etc., provided by nature. For best results, it is recommended that homeowners supplement nature's supply of water during extended dry periods by sprinkling. . . . The homeowner can maintain a healthy lawn, even during the periods of legally controlled supplies of water, if he uses the hours available for sprinkling by thoroughly watering limited areas of his lawn at a time. It is not absolutely necessary to sprinkle the entire lawn every day—for best results, we suggest sprinkling limited areas at a time so that during each week your entire lawn has been thoroughly watered two or three times. . . .

"It will not be necessary for you to sprinkle or follow any unusual procedures immediately after each application of Allied Liquid Fertilizer. If it rains during or after this application, the results will be just as satisfactory. We suggest that, if possible, you do not mow your lawn for a day or two following each application; and unless the turf is exceptionally thick and long, slightly better results may be obtained by not removing the clippings. Generally, in the spring, it is advisable to remove the clippings after each mowing; however, this is generally not necessary during the summer and early fall. . . ."

Allied closes the letter by saying: "It has been a pleasure to serve you." And we believe it—Allied seems to like the whole liquid fertilizer business, and is willing to merchandise it into a profitable adjunct to the fueloil business.

For as little as $5.00*
you can have
ALLIED
LIQUID
FERTILIZER
sprayed on your lawn
*Minimum for lawns of 2000 square feet or less. See complete price schedule inside.
.....NOW you can have that "dream lawn" you have been waiting for—without turning a piece of sod, without annoyance of spreading solids or handling heavy drums of liquids, without waiting weeks or months for results—and at reasonable cost, too. Allied Liquid Fertilizer Lawn Spray is applied directly to your lawn by trained personnel—supplying the same principal ingredients golf club greens keepers have been using successfully for as long as SIXTEEN YEARS.

Front page *of a folder which Allied Oil has used to sell its liquid fertilizer. Inner pages contain complete details of the service, along with an explanation of rates, frequency of application and results that can be anticipated. Included is an order blank.*

LIQUID FERTILIZER LAWN SPRAY SERVICE ORDER

Allied Oil Company, Cleveland 13, Ohio

( ) Please enter my order for _____ applications of LIQUID FERTILIZER at my (residence) (apartment) (business)
located at _____

( ) Please send me complete information regarding your liquid fertilizer lawn spraying service. (Please furnish information request in next 3 lines).

Approximate size of property _____ feet by _____ feet.

Deduct for house, driveway, garage, garden, etc. _____ sq. ft.

Approximate lawn area to be sprayed _____ sq. ft.

Number of shrubs and evergreens _____

Please commence service

( ) First 2 weeks in April ( ) First 2 weeks in May ( ) First 2 weeks in June
( ) Last 2 weeks in April ( ) Last 2 weeks in May ( ) Other (please specify) _____

Area to be fertilized	Minimum Prices per Application
First 2000 sq. ft.	$5.00
Next 1000 sq. ft.	2.00
Each Add'l 1000 sq. ft.	1.50
Shrubs & evergreens, average size (2 gal. recommended)	.15 per gal.

Name _____

Address _____

Telephone _____

For ordinary lawn care, we recommend 3 applications of LIQUID FERTILIZER during the season in addition to your normal lawn sprinkling with water.

TEAR OFF BEFORE MAILING CARD

COUPON—MEMORANDUM

Date service ordered _____

Number applications ordered _____

Applications at regular intervals to commence:

- ☐ First 2 weeks in April
- ☐ Last 2 weeks in April
- ☐ First 2 weeks in May
- ☐ Last 2 weeks in May
- ☐ First 2 weeks in June
- ☐ Other (please specify) _____

This is the reverse side *of an order for liquid fertilizer lawn spray service, with the front side consisting of a prepaid postcard addressed to Allied Oil. This form permits the customer to specify the number of applications —Allied recommends three or more—location and size of property, number of shrubs, etc., along with the date when the applications are wanted. To the right is a coupon which the homeowner fills in and keeps as his record.*

Profits in Cooling

Types of Units and equipment Components for residential Airconditioning

by
J. R. Lewis

THE DEALER who is thinking about his future position in domestic heating must acknowledge that he will not grow and must curtail operations unless he is prepared to tackle some type of airconditioning for summer comfort. He, therefore, should consider carefully the important aspects of each different type of residential cooling now available. Understanding the requirements and limitations will help the dealer decide how he can promote activity for profit.

The simplest form of cooling is available from the standard air-cooled type window unit. Volume for this class of summer cooling had grown tremendously until last year. Figures for 1953 show that about 900,000 units were sold. As this was substantially above 1952 volume, the sales predictions for 1954 ran as high as two million but sales amounted to close to the 1953 figure. There seems to be little doubt but that volume will level off around this quantity.

It may be some time before dealer profit is secure because too many manufacturers entered this field when the market predicted by optimists did not exist. Also, too many dealers, who were not qualified to sell airconditioning properly, have helped to spoil the market for those who were entitled to earn a legitimate profit. Lastly, people who were talking and thinking about summer cooling had a preference for something other than a number of window units. This last factor will become increasingly important now that several variations of central system cooling are offered.

There has been plenty of distress selling and price cutting for the available window unit market. This has discouraged many who anticipated big profits in this new and rapidly expanding industry. It seems likely that the market will stabilize in the very near future with production being limited and sales increasing to a demand that will run close to one million units annually for some time.

However, room units will continue to be sold by the appliance dealer in competition with the heating contractor and this will affect the profit possibilities. Room units offer a good answer to the problem of how to cool one or two rooms in a fairly large house. They also are very logical for apartment dwellings, hotels, motels and office buildings. There are still a large number of such rooms not yet equipped with cooling, particularly in the northeast.

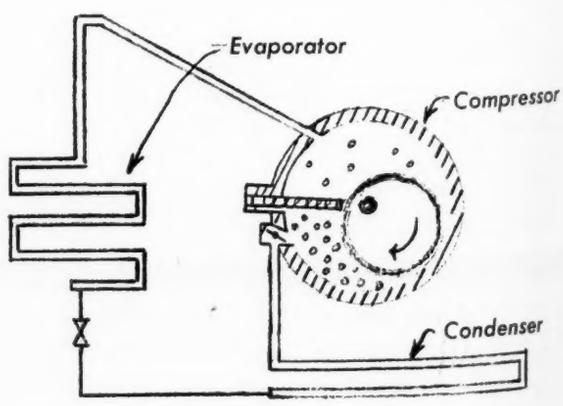
In 1954 and earlier, the big portion of central system residential cooling and heating was devoted almost entirely to new construction except in the warm climates where cooling becomes useful at least six months every year. Large real estate developments, offering combination heating and cooling package type units, provide good advertising opportunities to the heating contractor but competition and the element of risk in this new type of venture made profit possibilities limited for all but the most experienced. This activity still offers a good opportunity to the contracting dealer whose staff has proper training and reasonable field experience.

This year equipment manufacturers will emphasize several similar but different types of equipment that offer better sales possibilities and reasonable profit to the small dealer. This cooling equipment can be used for any new construction. However the big features of primary interest to the small dealer include flexibility, permitting its use and economical performance for cooling and dehumidification in multiple room dwellings that are equipped with other than duct type heating systems.

Almost every cooling manufacturer now offers high side (condensing) and low side (cooling) components in a separate package. There are a number of advantages. The obvious water shortage (for condenser cooling) and relatively costly plumbing work that are required for other than air-cooled refrigeration condensers make the use of air-cooled refrigeration increasingly important.

A separate package with high side in an enclosure that can be installed outside of the basement helps to dispose of the noise problem and the problem of heat dissipation that results when air cooled condensing units are close to the furnace. A separate package for the cooling section makes it very practical to add cooling and dehumidification to an existing modern warm air heating system.

Several manufacturers offer a combination of this type with the cooling coil section designed to fit underneath down-flow type warm air furnaces. The furnace needs to be lifted about 12" so that the cooling coil and its condensate collection trough can be inserted between the bottom of the furnace and the duct plenum through which air is normally discharged under the floor.



Diag. 1. *This schematic sketch shows how the rotating eccentric in a rotary type compressor is able to compress the refrigerant and force it into the condenser. Note the simplicity of design and small number of moving parts. This type compressor has proven dependable for small installations.*

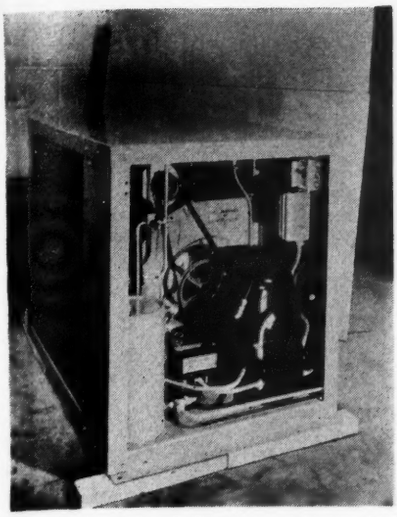


Photo 1. *Either 2, 3 or 5 ton air cooled high side assemblies like this one are available for connection to a low side package unit that fits into vertical riser of a warm air heating system. Compressor is hermetic. Motor in the upper left is for condenser fan. Photo courtesy Typhoon.*

Another variation of the same idea, but for the more conventional updraft furnace, is the package low-side. A cooling coil expansion valve, condensate collecting pan and drain connection are combined in a flanged type casing that can be inserted quickly in a vertical flow air duct. During dehumidification, condensate must collect and flow by gravity from the drain connection. Therefore, the position of the drain pan with respect to the cooling coil will prevent using the same package equipment for both vertical and horizontal air flow. Photo #1 shows "add on" package high side for use with such low side equipment.

For homes that are heated without ducts, there are several new interesting types of package equipment that will cool more than one room. Photograph #2 shows a compact low-side unit designed for ceiling mounting in a utility room, on a closet shelf or on the floor in unoccupied attic space. The casing contains coils for cooling and dehumidification, expansion valve, drain pan and a centrifugal type fan and filter section.

Only short duct runs are needed to get cooled and dehumidified air to and from several nearby rooms. Two small-sized copper tubes interconnect this low-side with the remotely installed high-side. When the high-side is incorporated in a weather-proof casing, it can be installed out-of-doors. Other locations such as a breezeway or a basement often are acceptable.

Still another variation of the same general scheme for multi-room summer comfort is equipment shown in photograph #3. This compact arrangement which consolidates both high-side and low-side for convenient installation in attic space over a central hall. The condenser is air cooled and equipped with separate motor-driven fan that will draw air to the attic space and discharge air through a vent that must be provided in the roof.

The hermetically-sealed compressor is mounted over the cooling coil sections which also include a recirculating air fan and filter section. When it is possible to drop the whole ceiling, the conditioned air can be carried through the resulting plenum (or separate ducts above the ceiling) to wall outlets in each room around the hall. A central return grille in the ceiling of the hall minimizes installation material and time and greatly reduces cost of installation.

Previously we have discussed what takes place in the high-side (condensing) and low-side (cooling) portions of the refrigeration cycle. For the ½ hp to 5 hp compressor sizes that are used in small window units up through the largest package units normally installed in a residence, it is common practice today to use reciprocating type compressors. These may be vertical or "V" or "W" or radial cylinder arrangements. All are single acting type and the trend is definitely to high operating speeds with low displacement per cylinder and multi-cylinder arrangement to help lessen vibration possibilities.

All reciprocating compressors can be built for belt or for direct drive. Each type has advantages. Since refrigerating capacity is directly proportional to the compressor speed, belt drive makes speed and output of compressors more flexible.

However, when using belt drive, a shaft must penetrate the compressor crank case. It is at this point that leaks may occur and result in loss of refrigerant. The bellows type shaft seal has been made very effective but long periods of shut down during which time the compressor crank case pressure is higher than normal will put a strain on the seal and maintenance expense and time should be anticipated under these conditions.

Direct drive design means that compressor shaft and motor may be enclosed within a sealed housing that won't have spots vulnerable to leaks. Such completely sealed units are classified as hermetic or semi-hermetic, the latter being of a type that may be opened in the field for replacement or adjustment of internal compressor or motor parts. Nevertheless, field repair should not be attempted by the inexperienced as this can lead to improper dehydration and purging. Following operation will then be responsible for greater damage and expense than was originally anticipated.

Smaller compressor sizes may be of the rotatory type, which because of simplicity, probably will become even more popular than they are today. Diagram #1 shows in section the basic elements of a rotary system. This single blade rotary turns as an eccentric within a housing that also encloses shaft and the driving motor. There are suction and discharge passages in the casing separated by a sealing blade.

When the rotary eccentric shaft passes this blade, the volume of space on the suction side is very small. Further rotation causes this volume to increase rapidly, thereby drawing refrigeration gas from the evaporator. When the eccentric passes the blade again, the gas passage from the suction inlet is closed so that the refrigerant can be compressed and pushed through a check valve to the condenser.

Efficiency of any refrigeration compressor could be improved through the use of water cooled cylinder head which would assist in getting rid of some super-heat. However, water cooled cylinder head jackets are expensive and impractical for the small size compressor used on the applications now under discussion. Fins which help dissipate heat to the surrounding air are efficient enough for practical purposes.

Condensers employed for dissipation of heat may be of several types.

These may be classified as to design and usefulness depending upon availability of water or air or a combination of both. The most efficient condenser for the refrigeration cycle is the water cooled type.

These usually have the refrigerant in a shell with water passing through tubes or coil installed within the shell. As water passing through the condenser is heated by the refrigerant and water temperature is a measure of the amount of heat that may be removed from the refrigerant, the leaving water temperature directly affects the compressor discharge pressure. This in turn affects both the compressor cooling capacity and the amount of load on the driving motor. An unlimited supply of cool water and no problem disposing of this quantity of water could mean using about 2 gpm per ton of cooling capacity which also is equivalent to about 2 gpm per 1 hp compressor driving capacity.

As the temperature of the inlet water increases, it becomes necessary to circulate more than 2 gpm per ton in order to keep the compressor head pressure from becoming excessive and possibly overloading the motor. The resulting large quantities of condenser water are seldom available from municipal water supply, particularly when they are needed in extremely hot weather. It is for this reason that some users have independent wells as the primary or the standby source of water.

Photo 2. *Home equipped with wet heat can use this economical means of getting multi-room cooling and dehumidification. The 2 or 3 hp refrigeration high side is remote and piped to the ceiling-mounted coil, expansion valve, fan, filter and drip pan package. Arrangement permits short low cost duct runs to several adjacent rooms. Photo courtesy Carrier.*

Another alternate is a cooling tower or perhaps evaporative type condenser. The cooling tower is a device through which water recirculated through the condenser is pumped and sprayed. The spray is confined within the tower where a natural or forced draft of air causes some of the spray to be evaporated. Evaporation of water always occurs at the existing wet bulb temperature for surrounding air. Therefore, water which is returned to the circulating system is reduced in temperature to (or near) the wet bulb temperature.

Air circulating through the tower removes heat of condensation and must be dispersed. From the practical standpoint about 90% water saving may be expected through the use of a cooling tower. During those periods when the wet bulb temperature is low, the saving is greater. On the other hand, high wet bulb temperature reduces the efficiency of a cooling tower.

Selection of the proper size and type must be calculated carefully and location must be selected to assure adequate supply of air and space in which to dissipate the heat. Furthermore, the tower should be installed where its noise level will not be disturbing.

The evaporative condenser is a variation of the cooling tower design to save lots of condenser water. This unit completely replaces a water cooled condenser. It is built so that water can be sprayed over coils through which the refrigerant is being pumped. At the same time, air is circulated over the coil surface to carry away hot humid air that would accumulate and reduce the coil cooling efficiency.

Since heat required to evaporate water is about 1,000 Btu's per lb., whereas 15 Btu's per lb. are required to heat water through a 15° temperature range, it is practical to remove substantial quantities of heat from a coil in an evaporative type condenser while consuming relatively small quantities of water through the evaporating process.

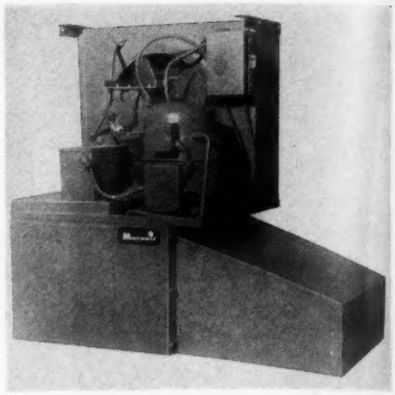


Photo 3. *This compact "over-the-ceiling" cooling package is offered in 2 and 3 ton capacities. Condenser served by propeller fan with direct-connected motor are at the top; hermetic compressor is at front center; filters, cooling coil, drain pan and blower are in the bottom section. Photo courtesy Muncie Gear Works.*

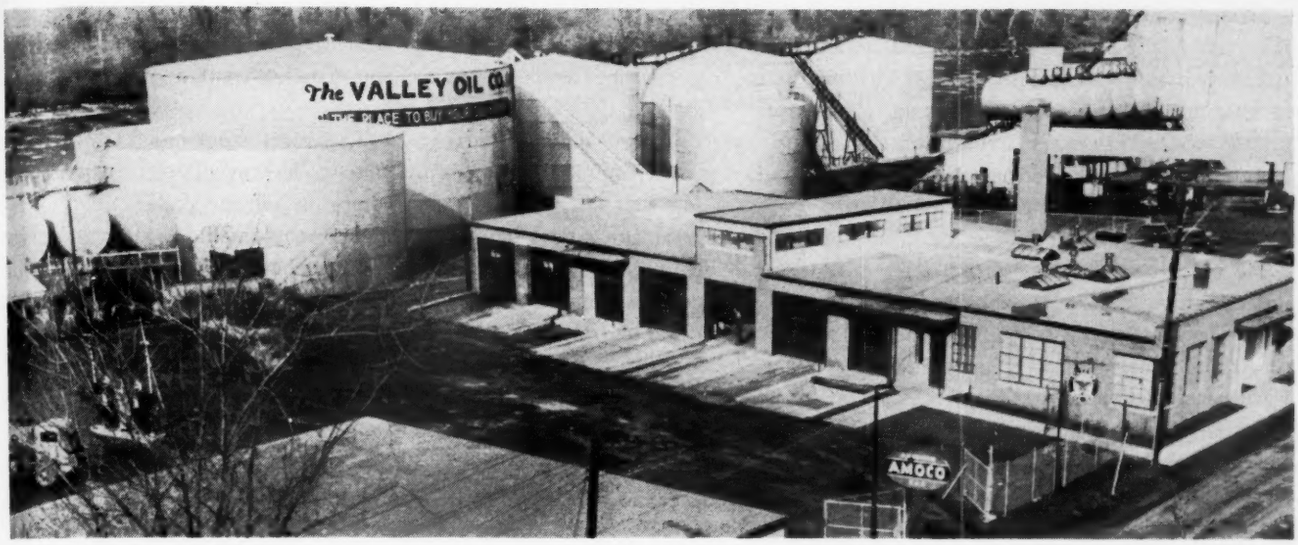
Here again, condenser location must be recognized as an installation problem from the standpoint of noise and heat dissipation. Also, with any type of condenser using water circulation, there may be a water freeze maintenance problem as well as the problem of keeping dust, leaves, etc. from accumulating in the water circulating system.

In view of these facts, by far the greatest percentage of new residential cooling equipment is being offered with air cooled condensers. The only disadvantage is that in warm weather condenser pressures are high, compressor power consumption is high and cost of operation for the system needed to accommodate a given set of conditions will probably be more than it would be for water cooled equipment.

In selecting air cooled condensers, it is important that the size be right to produce the rated net cooling capacity of the compressor at the maximum temperature to which the condenser will have to perform. In addition, the condenser will have to dissipate the heat equivalent of the work required to run the compressor. Manufacturers' selection tables make this a fairly easy calculation and instructions emphasize the importance of keeping the condenser in a shady location.

The opposite side of the refrigeration cycle, which is the low side, is a

(*Please turn to page* 171)



Modern oilheating Merchandising

Bill Briggs outlines some effective Methods and sales Concepts used by Valley Oil Co.

The Seventeenth Annual Convention of the Fuel Oil Distributors Association of New Jersey, held at the Berkeley-Carteret Hotel, Asbury Park, N. J., April 28 and 29, included a session on "Modern Merchandising Methods." Two speakers appeared on this program.

One, Fred Haab, F. C. Haab Co., Philadelphia, explained in detail the merchandising concepts observed by his company. He emphasized particularly that the salesman is all-important because a "Sales is King" philosophy permeates all activities of the Haab organization.

The talk developed the point that all segments of the company contribute in their own way to the success it enjoys. This applies to the service department which keeps the customers happy, the fueloil department which keeps their storage tanks full, both of which are tied directly to the equipment sales made by the sales department. Haab summed up with the observation:

"After 30 years in this industry, we're convinced that the soundest way to grow is to create new business through a burner and service department. But to operate a retail specialty selling force you've got to love it, work with it and get a kick out of some of the unusual sales."

Preceding Haab, William Briggs, Valley Oil Co., Portland, Conn., presented the story of how his company has been successful in building a continual increase in fueloil gallonage year-after-year by operating a well-trained and supervised sales force, again coupled with good burner service and efficient fueloil deliveries.

The following paragraphs contain excerpts from Briggs' talk, along with some other information about his company and its services.

BRIGGS BEGAN HIS TALK with the statement, "There are two ways to make a profit in the oilheating business." He went on to explain that deducting the cost of materials from the sales price results in a gross profit figure, on the basis of which you can calculate how many dollars you have to invest in a continuing sales effort that will enable you to sell and grow.

William Briggs

The second way is to "sell up" and make more gross profit so that you can have more dollars to play with, so to speak, and broaden your sales activities and efforts. Valley Oil Co., being a Timken dealer and concentrating on the sale of that equipment, has adopted a successful policy of training their salesmen to "sell up," with the result that each of the six salesmen sells better than a job a week and total sales this year probably will reach 500.

Valley Oil, Briggs explained, has increased its annual fueloil gallonage to 20 million gallons, much of it delivered from its main office and 6 million gallon bulk plant at Portland, Conn. In addition the company has an office and bulk plant at Meriden, Willimantic and Deep River, Conn., and a telephone office in Hartford. Essentially, the company operates in Central Connecticut in an area bounded by Waterbury Mountain to Norwich and from Hartford south to Long Island Sound. In all, Valley serves about 5,500 customers in the area.

Briggs continued by pointing out that the heating department of the company handles the usual sidelines—aluminum roll-up awnings, storm sash, liquid lawn fertilizer and airconditioning equipment. Also, the company operates 50 Amoco gasoline stations in the same marketing area.

He spent considerable time in telling how his company trains its salesmen. The six all received intensive and specialized instruction before they were permitted to make a single call. Essentially, Briggs said, the men are taught they have to sell themselves, their company and the product to the customers and in so doing they are not to worry or be concerned in any way about price, as such. In other words, they concentrate on selling product and services at a reasonable price and ignore completely price cuts or bargain prices.

"Our salesmen are provided with a backdrop of prestige and reputation," Briggs declared, "and we do everything that we can do to enhance this by carrying on a continuing newspaper advertising program. Then, we enter a youngster in the soapbox derby run by a Hartford newspaper, we sponsor a baseball team and in other ways keep our name before the customer and prospect."

The company itself dates back to 1913 when it was founded by James H. Porteous as a company to sell oil. He remained president of the company until his death in 1943 at which time the present owners bought out the stock interests of Mrs. Porteous.

Since then, William F. Briggs has been president of the company and George H. Stetson, with the company since 1932, has been general manager. More recently Earl Sweeney became sales manager and Briggs acknowledged during his talk that supervision of the salesmen is Sweeney's direct responsibility and also that he suggested many of the merchandising ideas used by the company.

Getting back to the training of the salesmen, Briggs remarked that each is equipped with a complete kit, which uses three-ring binders and glassine inserts to enable a neat and orderly presentation of literature and catalogs on the equipment. In addition, the sales kit is kept filled with current testimonials from satisfied users, along with samples of newspaper or magazine articles written about the company.

These are augmented by a complete collection of pictures showing homes in which Valley Oil has installed equipment. Many of these homes (similar to the accompanying photograph) are shown with a fueloil truck parked in front of it making a delivery. Other photos show "before" and "after" scenes in customer's basements, illustrating how equipment looks after the installation has been completed.

More about the sales kit later.

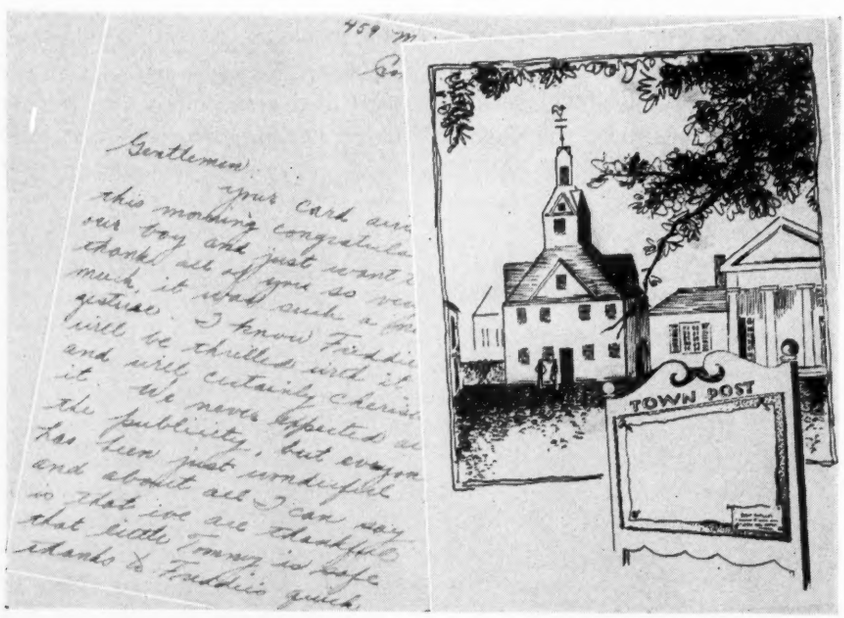
Briggs described the training program which Valley Oil conducts for its salesmen. "They ride our fueloil trucks so that they can see how the driver delivers oil and be able to talk intelligently about it when they are facing a prospect. They go out with burner servicemen and watch installation crews at work for the same reason. The trainees make calls with regular salesmen as observers and, as part of their technical training, we send them to every school that we can.

"For example, our salesmen have attended Oil Heat Institute of New England schools, Indoor Comfort Conferences held by the National Warm Air Heating and Air Conditioning Association and the Schools of Modern Heating conducted by the Institute of Boiler and Radiator Manufacturers. Then each one attends the Timken factory school for specific instruction on burners and units, supplemented by a Timken training school held at the company's office every three weeks."

All this, Briggs remarks, is at company expense, of course, and most of it takes place before the salesman makes a single call on his own.

Much of the success, "we've enjoyed," he observed, "has been the result of doing the same things that practically everybody else does to sell equipment and fueloil. But we think we've come up with a couple of variations, call them gimmicks, if you will, that makes our sales story a little more effective."

For example, Valley Oil subscribes to newspapers published in its marketing area. These are carefully read and



Front *of the "Congratulations" card which Valley Oil Co. sends out regularly. This one is merely a blank sample. The ones which are mailed have the recipient's name filled in on the "Town Post" bulletin boards, contain a newspaper clipping of the event which prompted Valley Oil to send the card. This could be a graduation, birth announcement, wedding, anniversary, appointment to civic post or other accomplishment which is mentioned in local newspapers. The company subscribes to all of them, clips out all eligible items and sends card to each whether they are Valley Oil customers or not. The letter reproduced, left above, is a typical reply which is received from those who get the cards. This one is from a woman—not a customer, by the way—who was saying "Thank you" for the card sent her son who had saved another boy from drowning.*

news items referring to individuals are clipped. Each one then gets a congratulatory card from the company, personalized by having the individual's name filled in on the front of the card and a simple "We think Congratulations are in order" message inside.

The news clipping itself is pasted to the inside of the card and Briggs signs them. Recipients are picked when they are reported as having been married, had an anniversary, became parents, achieved some civic recognition, graduated, performed some heroic act or generally distinguished themselves in some way. "These people don't have to be our customers," Briggs said, "and there never is any follow-up on our part once the card is mailed. We send it to them just to congratulate them and we're content to know that each one of them is an extremely potent goodwill builder for us. We know this from the number of 'thank you' notes we receive all the time."

Another effective sales gadget is an expensive looking perfume bottle, which Briggs explained actually was just that—a good quality bottle with a metal cap. Each salesman carries one with him and during his sales presentation he hands it casually to the housewife. Her first reaction, almost always, is to open it and sniff it. It's filled with fueloil and while it doesn't resemble perfume in the least, it allows the housewife to appreciate and the salesman to emphasize that fueloil isn't the smelly, dirty, obnoxious fuel she might have thought or been led to believe.

Also, every time a Valley Oil salesman calls on a prospect he leaves a premium of some kind. Currently, the housewife gets a small packet, a little bigger than a pack of matches, containing individual applications of hand lotion wrapped in aluminum, disposable packages. She can drop it in her purse or put it in the kitchen over the sink. And, every time she uses one of them, she's reminded of who gave them to her.

Briggs went into some detail explaining how the salesmen are given leads. One activity involves a telephone girl who calls homeowners in every town in which the company operates. A typical approach involves her informing the homeowner that she is making a survey and asking the answers to a few questions. These find out what fuel is being used and if the answer is coal, the telephone girl has uncovered a prospect.

Typical *Valley Oil truck making fueloil delivery to customer's house. This is one of many photographs which the salesmen carry in their kits. They are shown to prospects and, since each is identified by the name and address of the homeowner, it provides a personalized demonstration of company services. Other photographs in the kit show before and after scenes of Valley Oil installations.*

On the other hand if the person answering the telephone indicates that fueloil is used for heating, the questions shift to a tack that explores if the present supplier is satisfactory.

Every salesman gets a complete user list arranged by streets. Then when he is making a presentation, he can relate it to the fact that in the same neighborhood there are so many Valley Oil customers. Also, the salesmen call on these customers during the morning to uncover new prospects.

Basically, Briggs continued, the leads, which are distributed among the salesmen, result from company advertising, the telephone survey, national advertising of Timken and user recommendations.

When the salesman makes his first call his aim is to make a complete heating survey of the home, once he has determined that the prospect is ready for an actual proposal. Getting back to the sales kit, each one contains the required material to complete the survey. The salesman has a flashlight, pad and pencil, steel tape, a folding rule and everything else he needs to make a professional, complete heat loss survey.

In addition to the folding rule, he also carries a duplicate rule which is broken. Then if there's a youngster in the house, who naturally tags along as the salesman measures each room, window and door opening, he gives the child the broken rule so that he can "help." A little thing, of course, but it's effective.

After the salesman has his measurements and other data, he leaves. He might have a fairly accurate idea right then what the job requires and how much it costs, but he never quotes a price at this time. Instead he returns to the office, makes a detailed floor plan of the house, fills in the dimensions, shows windows and doors and includes location of heating outlets. This becomes part of the sales contract, which contains complete specifications, breakdown of heat loss data room by room, proposal and cost.

Briggs' concentration on improving techniques and efficiency isn't confined to the sales department by any means. The servicemen, for instance, are kept informed of latest service methods, but also at regular meetings hear about competition from other fuels and other factors which exert influence on the company's progress. This phase also is carried to all the other Valley Oil employees in a program that is intended to impress upon them that anything they can do to further the company's success directly and indirectly acts as job insurance for them.

Competing with gas, Briggs conceded, is not easy in central Connecti-

(*Please turn to page* 173)

Oilheating a 'magazine' Home

IT WAS AT THE Warm Air Convention in December at Cleveland that Edith Brazewell Evans, editor of "Living for Young Homemakers," spoke at some length on the heating industry's failure to get a more favorable share of the consumer's dollar.

Her magazine has gained considerable recognition in the so-called "shelter-group" of publications. Sitting beside this reporter was M. J. Donahue, general manager of Fluid Heat Div., Anchor Post Products, Inc. He mentioned that one of his dealers had just installed oilheating and airconditioning in one of the model homes sponsored by Mrs. Evans' magazine.

It is the home of Jack and Gloria

A. G. Logan, *left, and Ed Long, Fluid Heat's regional manager, sit long enough to look relaxed in one of the four "living" rooms of the Rochelle home. Picture above shows the unusual exterior design of the home.*

Rochelle in a pleasant suburb of High Point, North Carolina, and the oilheating dealer is A. G. Logan of Logan Heating Co., Winston-Salem, N. C.

On our next trip in that direction we took in both Logan and the house. It's a very unusual looking house even in these days of modern styling, but very livable with extraordinary emphasis on rooms for purposes other than sleeping and eating.

There are actually four living and recreation rooms, all large. One is called a living room, another an all-purpose room. Then on the floor below is a game room and a hobby room. There's a lot of walnut paneling on the walls, even in the kitchen.

Logan got the oilheating job through the architect and installed a Fluid Heat forced air unit. Then as an afterthought, a Fluid Aire 3-ton cooling unit was added to use the same heating ductwork. It has worked fine, both last summer and this winter.

While it's interesting to Logan, partly because it is a prominent house, actually it's just one of the better recent examples of 3,000 oilheating installations he has made in the prosperous Piedmont area.

Most of these jobs were handled when he was manager of a heating subsidiary of Quality Oil Co., North Carolina's largest independent marketer. He started his own oilheating business in 1952 and three years later has an annual volume of $350,000, with 95% of it oilheating installations.

Winston-Salem has natural gas, but at rates about 25% above oil it has not made much progress so far.

Walnut paneling, *chessmen and two lovely young hostesses helped the reporter's admiration of this oilheated and airconditioned home in High Point, N. C.*

Nearly all new homes are still oilheated. There are two reasons in Logan's opinion. First, the South doesn't shift horses quite as fast as some other sections. Second, the city of Winston-Salem is built up and 75% oilheated. New homes are suburban, and outside of one cheaper development that went to gas, most of the others are individual new homes, widely spaced, making gas mains costly.

Logan is a strong advertiser, mostly on radio and in neighborhood movies. He has a daily newscast at 6 a.m.—of all times—but its listener rating tops the station. Then he has two spots a day timed at the station's option.

Logan's son, A. G., 3d, is active in the business as a salesman, and in the opinion of Fluid Heat's regional manager, Ed Long, the son is making a fine record. Ed was on hand the day of the visit, and drove the reporter to Charlotte to catch a plane for the world's roughest ride to Chattanooga.

Logan Heating *Company's Winston-Salem office and shop. Logan has oilheated some 3,000 of the better homes in the Piedmont area of North Carolina.*

Electric Motors

Part Two—Motor Size must match hp Load; motor Type must match starting Load

by

J. W. Schulz

IF ELECTRIC MOTORS interest you because you sell, install, or service oilheating equipment, read part one of this series of articles on motors before you study this article.

The first article apeared in the March issue of FUELOIL & OIL HEAT, starting on page 55. If electric motors interest you, the articles "Electrical ABC's of Burner Jobs," and "Facts on Voltage Drops and Wire Sizes" should have your attention. These two articles are in the book, "Fundamentals of Oilburner Controls," which is available from FUELOIL & OIL HEAT.

The first article in this series gave instructions on setting up a simple, inexpensive test panel which can check defective motors with no risk of blowing fuses. The article listed the seven types of motors used in oilheating and airconditioning, and gave details on the first two of these, the split phase motor, and the repulsion-induction motor.

Split phase Motor

The split phase motor, in 1/6 hp size for example, is relatively inexpensive. A 1/6 repulsion-induction motor is much more costly.

The split phase motor is excellent for loads that start easily; it is excellent for a fan or blower because such a load does not cause a motor to work hard when it makes its first few turns after it starts. By the same token, a split phase motor has characteristcs which match the needs of a domestic pressure-atomizing gun-type burner. Powering the blower and oil pump in such a burner, the motor shaft has an easy assignment when it first starts to turn; the full load on the motor shaft develops only when it reaches the full speed at which it runs normally.

The split phase motor, though inexpensive as a type motor, thus is excellent for a particular type of load —a load which does not cause the motor to work hard from the second it starts until it reaches full speed. This type motor is inefficient while it gains speed following starting; in coming up to speed it draws a relatively great amount of electricity, but wastes much of this. For that reason, large sizes of split phase motors (say ½ hp size) usually are unsuitable for home use, according to the opinion of many engineers. Each time they start, they draw so much current that they drop the voltage and cause the house lights to dim momentarily.

Repulsion induction Motor

In several important respects, the repulsion-induction motor is opposite to the split phase motor. First and as has been indicated, the split phase motor in a given size is an extremely inexpensive form of two-wire motor (say in a 1/6 hp size), while in the same size the repulsion-induction motor is a highly expensive form of two-wire motor.

Second, while the split phase motor is suitable for only loads which are easy to start in the manner just described, the repulsion-induction motor is suitable for shaft loads most difficult to budge initially and to bring up to normal running speed. The starting inefficiency of a large size split phase motor makes it drop the line voltage and dim lights as it starts and tries to attain normal speed. But the starting efficiency of a repulsion-induction motor is admirably high—for in starting and attaining normal running speed this motor works in the manner of a direct-current motor.

Piston-type motor loads not of the "unloading-for-starting type" (the piston is not unburdened of doing work until the motor shaft is nearly up to speed) are tough loads to start. Imagine a piston-type water pump, air compressor, or refrigeration compressor in which the piston develops great pressure and does heavy work when the motor shaft first takes half a turn in starting. A repulsion-induction motor is excellent for such tough-starting loads. It is excellent for any load which is exceedingly difficult to budge from a standstill, and exceedingly difficult for the motor to bring from a standstill to full speed.

The foregoing points were spelled out clearly as an introduction to a discussion, which now is in order, of the problem of: 1. Matching the motor SIZE to the horsepower LOAD the motor must carry; and 2. Matching the motor TYPE to the kind of STARTING LOAD the motor must be able to handle gracefully.

Many letters from readers have been coming to FUELOIL & OIL HEAT as the result of articles about motors being published in the magazine. Several have brought out the need to discuss the two points listed above.

Burner parts Testing

For example, a letter from a serviceman reads: "After deciding to use compressed air to test oilburner parts for leaks in my shop, I coupled a 1/6 hp motor to a piston-type compressor from an old refrigerator. The motor started easily at first try, with the compressor working against no air pressure in the compressed-air storage tank. But I wanted the compressor to start when the tank air pressure dropped to 50 lbs., and stop at 60 lbs. pressure in the tank.

"As a simple solution to the hard motor starting with the compressor bucking 50 lbs. air pressure, I slowed down the compressor greatly by switching to a bigger pulley for the compressor shaft, in the belt-drive I had rigged up.

"Then the set-up did not provide enough compressed air for all the uses that had developed—paint spraying, cleaning parts, as well as testing.

"To be able to run the compressor at the original high speed—yet have the motor start easily with the compressor bucking 50 lbs. pressure—I went out and bought a new ½ hp motor.

"This new motor does the trick,

and therefore I thought I had settled the problem with a great show of brains. But reading your article comparing different kinds of motors now causes me to be less certain.

"For the first time, I checked on the types of motors I've been using. The 1/6 hp motor I tried and discarded—for driving the compressor—is a split phase motor. So is the ½ hp motor I'm now using, which seems to do the job very well.

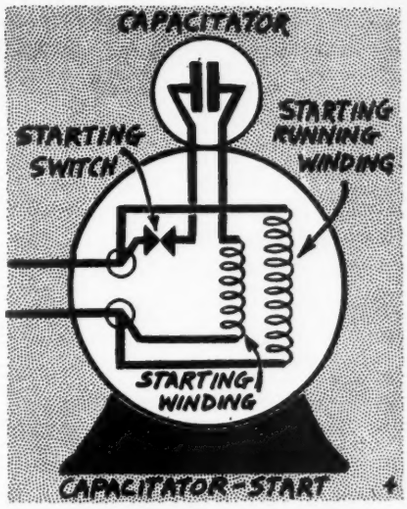
"If a small motor won't start up easily under a heavy load, can't you solve the problem perfectly simply by switching to a larger motor of the same type, which proves to start up easily?"

The serviceman who wrote this letter did provide a practical solution for his problem, for as he says the air compressor rig now works, whereas using the smaller motor it did not work. On a practical basis, he no longer has a problem.

However, it can't be said he solved the problem perfectly. The 1/6 hp motor he used originally worked well except in starting poorly with the compressor bucking 50 lbs. tank pressure. From that comes the conclusion that a 1/6 hp motor could carry the load—the original load with the compressor running at the higher speed at which it first operated. The original load was a 1/6 hp load.

It is wrong to use a ½ hp motor to carry a 1/6 hp load—if you seek for a perfect answer to motor-selection problems. You should not aim to run motors greatly underloaded.

The serviceman should have used a 1/6 hp motor for a running load this size motor can carry. He should have solved the starting problem by either (a) switching to a 1/6 hp motor of a type — probably repulsion-induction type—which matches the requirements of a difficult starting load, or (b) altering the load to make it easy to start; improve the compressor so that its piston does no work until the motor shaft is nearly up to speed. The (b) solution would provide the compressor with the "unloading for starting" feature which, if you don't know about, you can learn by studying airconditioning compressors which have this feature.



Diag. 4 — *Capacitor-start induction-run motor. In effect this is a split phase motor with starting characteristics improved through the addition of a capacitor in the starting winding circuit, and adaptation of the starting winding to the capacitor. Capacitor-start induction-run motors are used widely in oil-heating—are used, for example, on many circulators made for hot-water heating systems.*

Usual good practice, in the field of two-wire, single-phase, fractional horsepower motors, is to aim first to provide a motor of sufficient horsepower for the load. Aim to avoid installing motors tremendously oversize, because this wastes money on a needlessly large motor, results in motor inefficiency which wastes electricity and runs up electric bills needlessly, and gives disadvantageous power factor complications which can be important but which require an explanation too lengthy to go into here.

An extremely simple basis can be used to judge whether or not a motor is large enough for its running load. The motor that's large enough is not damaged by overheating at any time—even on a day when it works its maximum number of hours a day, under maximum conditions of ambient temperature. The undersize motor tends to be damaged by overheating.

Consider a motor used to drive a large air-circulation blower, and marked by its manufacturer as having a full-load speed of 1740 rpm. The manufacturer expects this motor to be able to carry, as maximum, a load which will slow down the motor shaft to 1740 rpm. You will overload the motor and invite damage to it by overheating, if you speed up the circulating blower by switching belts—to the degree that you slow down the motor shaft greatly below 1740 rpm, down to say 1500 rpm.

Working on the basis of a perfectionist, then, your first aim is to provide for a given load a motor of the proper hp size for the load . . . not a motor greatly oversize.

Next, in the field of these single-phase, two-wire, fractional-horsepower motors, you aim to provide the type of motor needed for the type of starting load of the particular motor application. For an exceedingly easy starting load, you would select a split phase motor rather than a repulsion-induction motor. For a load exceedingly difficult to bring up to normal running speed, you would select a repulsion-induction motor rather than a split phase motor. Often the smart thing to do where it is possible, lies in altering a difficult starting load to turn it into a load that starts easily. That's the principle behind unloading compressors to make them easy to start.

All the excellent principles and theories used to select types and sizes of motors need a generous overlay of common sense. That was brought out emphatically in an episode which occurred before World War II, which involved proper motor size for an exceptionally small pressure burner, able to fire less than 2.0 gph.

The usually used 1/6 hp motor is well known to be greatly oversize for the horsepower requirements of a domestic pressure burner. Before World War II, three burner manufacturers I knew brought out low-capacity pressure burners equipped with 1/20 hp motors. A dealer friend of mine needed little persuasion to install 15 small burners equipped with 1/20 hp motors, so that he and I could study their motor performance on actual installations. The low price of these little burners jibed with the low installation prices of this dealer during the lean days before World War II.

We knew the little 1/20 hp split phase motors had ample horsepower ability for driving the exceptionally small blowers and the single-stage fuel units in these burners. That the 15 burners performed well throughout the

first heating season following their installation in fall was not, then, surprising to us.

The following fall, however, I received word from my dealer friend that three of the motors had burned out. The inexpensive little motors were not equipped with overload protectors; making installations at exceptionally low prices, the dealer had not provided external motor overload protectors.

The three motors which burned out in fall were all on furnace jobs. Summer idleness, according to the dealer's explanation, seemed to cause the shaft glands of the fuel units in these burners to seize slightly. The usually used 1/6 hp motor made such slight seizing entirely unimportant, because the starting ability of a 1/6 hp motor, even split phase type, was great enough to jar loose a slightly stuck shaft gland in a fuel unit which had been idle for three or four months on a furnace job. The 1/20 hp split phase motors burned out their starting windings on furnace jobs, when the owners first tried to start the burners in fall, because the motors could not budge into action the fuel units—with their shaft glands just a bit stubborn about starting following the months of summer idleness.

"It's a nuisance, I know," the dealer told all 15 homeowners to whom he had sold burners fitted with 1/20 hp motors, "but to prevent burning out motors when you try to start your burners after they've been idle for months in summer, you've got to first turn over the burner's blower by hand. Just stick your finger into the blower housing and give the blower wheel a push to budge the motor shaft and oil pump shaft."

He recommended that the owners of these burners buy adequate external motor overload protectors from him, as positive protection against motor winding burn-outs.

As the result of these experiences, this particular dealer acquired an aversion to installing pressure burners equipped with 1/20 hp motors—but I know of other dealers whose experiences with burners powered by this size motor have been excellent.

I asked the manufacturer of these burners, which my dealer friend had installed, how much he saved by buying 1/20 hp motors, instead of 1/6 hp motors, for the small pressure burners he produced.

"Offhand, about 30¢ a motor," he replied ruefully. "If the use of 1/20 hp motors gives just a speck more trouble than the use of larger motors, there's no sense in fitting pressure burners with small motors closely matched to the horsepower requirements of the blowers and oil pumps they drive. The 1/6 hp motor usually used for a gun burner is a 'good buy' because of the vast production of this size motor. Its use of slightly more electric current per year—because it is oversize and therefore inefficient—is entirely unimportant in the typical home because the total yearly electric bill for running an oilburner is a small item at its highest."

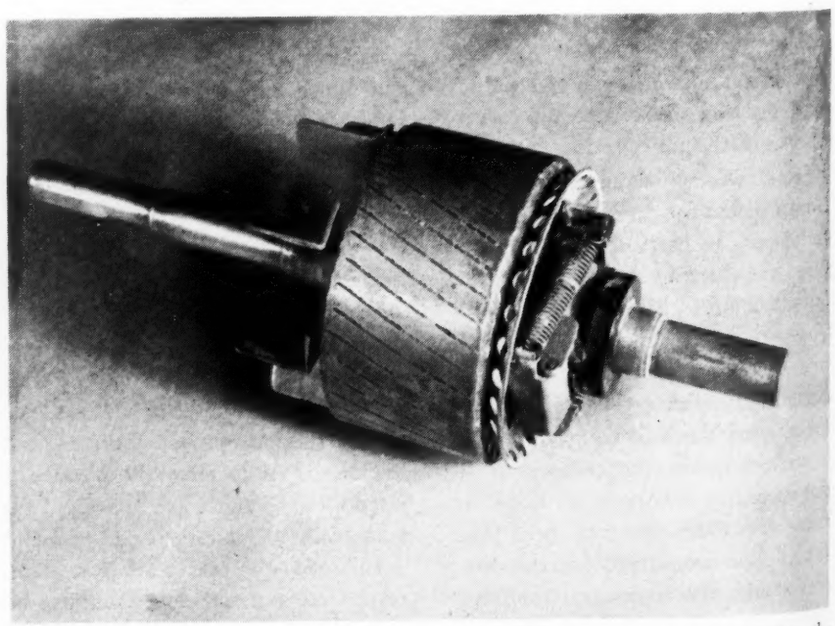
The internal wiring of a capacitor-start induction-run motor is shown in accompanying Diag. 4.

Such a capacitor-start motor is the equivalent of a split phase motor with a capacitor added to it to improve greatly its starting ability, and with the starting winding changed to adapt it to the use of the capacitor.

The capacitor-start induction-run motor is about midway between the split phase motor and the repulsion-induction motor in almost all of its characteristics. It costs more than the split phase motor, but less than the repulsion-induction motor. It starts under heavy load much better than the split phase motor, but not as well as the repulsion-induction motor. Because it has a capacitor that might give trouble, in addition to having all other parts in a split phase motor, it might possibly need more attention than is needed by a split phase motor. But the capacitor-start motor needs less attention than is needed for a repulsion-induction motor, as the rule, because it lacks the brushes and commutator.

Many piston-type refrigeration compressors needing 1/6 hp motors for their normal running loads start too hard to be powered by split phase motors—are started splendidly by capacitor-start induction-run motors—but do not need the terrific starting ability of repulsion-induction motors.

It follows that as far as dropping the voltage on starting, and dimming house lights, the capacitor-start motor again produces a compromise. In a house not wired overly well, the capacitor-start motor will dim the lights in a moderate way when it starts—more than a repulsion-induction motor, but less than a split phase motor.



Seven types *of motors used in oilheating and airconditioning were listed in the first article of this series. Five of these types use the rugged, squirrel-cage rotor—of the type shown above. Only repulsion-induction motors and universal motors do not use this type; they have wire-wound rotors with commutators for brushes.*

Oilheating Market Reports —METROPOLITAN BOSTON

During May an office was opened at 270 Park Avenue, New York, under the designation, "Oilheating Market Reports," supported by major oil companies and independent terminal operators. Its staff is to survey oilheating markets East of the Rockies to help in the development (or enlargement) of local cooperative campaigns to make more families want oilheat. After initial surveys have been made, the group will provide periodic follow-ups on the programs as they get underway. The director of the new activity is Robert Gray and the associate director is Fred S. Burroughs.

Published here is a brief condensation of the first such report . . . Metropolitan Boston.

Physical Characteristics

METROPOLITAN BOSTON, as considered in this report, comprises the central City of Boston and 82 other cities or villages, most within a 20-mile radius of City Hall. The population of this area in 1954 was 2,657,411; geographic area, 1,057 square miles. The district covers 14% of the area of the state, but contains 55% of its population.

Home Heating

667,412 dwelling units are listed in the Metropolitan Boston area from the 1950 census. Of these, 525,570 had central heating equipment, divided as follows:

Liquid fuel	232,190
Coal	229,315
Utility Gas	47,435
Bottled Gas	1,295
Wood	1,195
Other fuel	10,090
Not reported	4,050
Total	525,570

The figure just given for central gas heating plants compares with something over 375,000 oilheating users on that date. 1954 installations of oilheating in new homes and conversions from other fuels of 28,306 are shown in the accompanying table.

Copyright 1955, Oilheating Market Reports.

Net new oil users, after deducting losses to other fuels, were 26,933, which compares with the net gain of 12,500 new gas users added during their year which ended November 1, 1954.

Growth of Oilheating, Metropolitan Boston

Number of rations, central heating, 1945	143,606
U. S. Census, 1950	232,190
Estimated, 1955	375,762

New Oilheating Installations, Metropolitan Boston, 1954

In new homes	18,775
Conversions from other fuels	9,531
Total	28,306
Less losses to other fuels	1,373
Net new oil users	26,933

In addition, 4,696 new installations were sold in 1954 to replace old oilburners.

Fuel Costs

The retail price of anthracite coal of the hand-fired variety in Metropolitan Boston is approximately $26.50 per ton, with 12,000 Btu to the pound. This figures out at approximately 11¢ per therm, or about 10% above the price of No. 2 heating oil on a Btu basis.

Gas heating is sold at various rates by five utilities serving the Metropolitan area. These are:

Boston Consolidated Gas Co.
Worcester Gas & Electric Co.
Cambridge Gas Light Co.
Mystic Valley Gas Co.
Lynn Gas & Electric Co.

Average rate for gas house heating service is about 13.3¢ per therm. The largest utility, Boston Consolidated Gas Co., as an example, has two gas rates, because in some areas a mixed gas of 581 Btu per cu. ft. is furnished, compared to straight natural gas in other areas at 1,000 Btu per cu. ft. In the mixed gas area the net cost, after cash discount, is 13.75¢ per therm, while in the natural gas area net cost after discount is 14.0¢ per therm. The other utilities average slightly lower rates, according to estimates by officials of the Better Home Heat Council, to reduce the average for the entire area to 13.3¢ per therm.

Coal heating is still a fairly strong factor in this market, although no estimates of the number of coal-fired central heating plants subsequent to the 1950 census are available. At that time there were 229,315 such installations in operation, and in the five years since that date losses to other fuels have probably totaled about 60,000.

Data on gas heating installations in the area are similarly incomplete. The 1950 census showed 48,730 centrally-heated homes using gas (utility and bottled gas). Gas utilities serving Metropolitan Boston have estimated that on November 1, 1954, 53,260 central home heating plants used gas as fuel. On the same date the previous year they estimated that 40,760 centrally-heated homes used gas. This indicates a gain in the 12 months of 12,500 users.

The present retail or tank wagon price of No. 2 fueloil in the greater Boston market is 13.4¢ per gallon, although this has been reduced by a Summer discount of .5¢ per gallon. Cost should, therefore, be considered as 13.9¢ per gallon, since this will apparently be the basis during the next heating season.

Fueloil, at this Winter rate of 13.9¢ per gallon, costs 10¢ per therm, or 100,000 Btu. Thus, the cost of gas heating on a Btu basis is just about one-third greater than the cost of heating with oil.

Fueloil Distribution

In studies by FUELOIL & OIL HEAT covering the 1953-54 heating season it was learned that the average residential consumer burned 1,550 gallons. Into account, however, must be taken the small commercial buyer who uses oil to heat his neighborhood store, or perhaps a small flat. This class of consumer uses the domestic type of burner and No. 2 oil, is supplied through the same outlets serving the residential user, and accounts for an average individual consumption of 3,864 gallons. 94% of No. 2 heating oil buyers in the Boston area are in the residential classification; 6% in the small commercial category. Thus, the calculated average use covering both groups is 1,689 gallons per customer.

Next to be taken into account is the

fact that the 1953-54 heating season in Boston was 10.8% warmer than normal. Making the necessary adjustment to normal degree days, the typical Boston consumer usage figures out to 1,893 gallons of No. 2 heating oil in a normal season. Multiplying this by the estimated 375,762 users of this product at the start of 1955, total market consumption in the area works out to 711,317,000 gallons, or just slightly under 17,000,000 barrels.

Boston has long been recognized as one of the better markets from the standpoint of refinements in fueloil delivery. Approximately 85% of the consumers, for example, are served with automatic deliveries so that they never have to watch their tanks or oil. As a further refinement, 83% of the customers have tanks equipped with Ventalarm signals.

In studying an oilheating market with a view to its ability to vigorously promote oilheating, it is desirable to recognize the general nature of the fueloil outlets. In Metropolitan Boston, for example, only 11% of the marketers selling fueloil are also in the gasoline business. 28% are also in the coal business, and 76% sell and install oilburning equipment. In other words, the fueloil group in this market is quite directly concerned with home heating comfort rather than being primarily interested in selling fueloil as a commodity.

Market Concentration

Metropolitan Boston has an unusually large number of independent fueloil marketers in relation to the amount of business done. This is reflected in the fact that so many of these marketers are 1-or-2-truck operators.

While it is estimated that about 1400 trucks are in operation delivering No. 2 fueloil to this market, an actual count and breakdown of trucks employed by 567 separate companies, accounting for 1137 of this estimated 1400 total, was deemed sufficient to establish the pattern for the market.

Outlets Selling Oilheating

In the Metropolitan Boston area during 1954, approximately 68% of all oilheating installations were sold by fueloil companies. This, of course, includes some sales by integrated companies, such as Esso. Another 22% of installations were sold by plumbing or heating dealers having no direct interest in the oil business. The remaining 10% were sold by companies specializing in oilburner service, but who sold no heating oil. Logically, the bulk of these sales were replacements of oilheating jobs.

Oilheating Service

In 1954, fueloil companies took care of approximately 74% of the oilheated homes in greater Boston. Plumbing and heating companies accounted for 9% of all oilburner servicing in the area. The remaining 17% of the service load was handled by special oilburner service companies.

Coverage of oilburner service requirements under service contract is quite prevalent in the Boston area, with about 35% of all oilheating users getting their service in this way.

The average charge for an annual residential service contract, including replacement, if necessary, of all burner service parts, is $26.00. The price of an annual contract, not including burner parts, is $17.00. In many cases, where a family does not wish to pay the price of an annual service contract the dealer can persuade them to have an annual clean-up and overhaul of the heating unit. Approximately 22% of the oilheating families in the area subscribe to this type of service work. Thus, a total of 57% of all oilheating jobs get a complete going over once each year to put them in shape, with the larger share of these also getting complete annual service.

In connection with minimum charges per call, where the customer is not on contract, it is interesting to note that average individual call price among oil companies is $3.91, while price charged by non-oil companies averages $4.19.

Advertising Promotion

To date there has been relatively little cooperative advertising of fueloil and oilheating in the Metropolitan Boston market. Prior to 1954, amounts were negligible. During 1954 about $6,000 was spent in three or four small community programs but none across the market.

The gas utilities, on the other hand, are said to have spent about $50,000 in 1953, and about $75,000 in 1954 to promote their product for heating in the area.

As we move into 1955 we find the oilheating group now becoming much more active in cooperative promotion, with a program currently under way through the Better Home Heat Council, Inc.

This organization is directed by about thirty of the leading individuals among the independent fueloil marketers of the area and has extended its invitation to the integrated companies and the large terminal operators to designate representatives to serve on the Board of the Council and to aid in further development of the program.

The Better Home Heat Council program calls for a total outlay of $150,000 in 1955. This budget would be shared between independent marketers and the supplying companies. At this date, about 14% of the individual fueloil marketers, representing 30% of the market's retail gallonage, have subscribed to the program, while at the time of this report only 4 of the supplying companies had joined. It is recognized, however, that the whole project is in a beginning phase and the Boston marketers anticipate that most of the large supplying companies will share in the program.

A strong advertising agency has been engaged and a few advertisements have already been prepared and placed in the cooperative campaign.

Small Companies are unusually Important

Trucks delivering No. 2 Fueloil	*No. of companies operating within classification*	*Percent of companies to total*	*Total trucks represented*	*Percent of total number of trucks*
10 or more	16	3%	201	18%
6 to 9	11	2	82	7
3 to 5	80	14	285	25
1 or 2	460	81	568	50
Totals	567	100%	1137	100%

Advertising Finesse

Buckley & Scott proves that a well planned and appealing Program brings in Sales

AFTER BETTER THAN 30 years of selling oilburners, fueloil and service to Boston homeowners, it might be understandable if promotion programs of Buckley & Scott, Watertown, Mass., became routine. Such is not the case, however.

Tom Scott, executive vice-president of the organization, regards hit or miss advertising as a pure waste of good dollars. He looks with disfavor, too, upon a decision to abandon advertising or only "do a little when things are good," as he puts it, when it's discovered that results don't justify the cost.

Instead he is a strong advocate of finding out why the advertising doesn't pay off and searching for methods that can make it effective. The promotion program he put together for his own company is probably the best evidence to support his beliefs.

Scott has found it the easiest thing in the world to waste advertising dollars. "Advertising without a plan is like fishing with the wrong kind of bait," he explains. "You cast it into the waters and hope something will bite. Sure, you'll get a fish or two but nothing worth the time and effort—and dollars you spend."

Buckley and Scott has found how to make its own advertising and promotion pay. But it took three and one-half years of constant research and study to learn the secret. Once uncovered, the company has reaped large dividends from this secret.

"We found that a well-planned, individually-tailored advertising program which emphasizes the long-range rather than immediate sales point of view will sell a lot more oilburners and service in the long run. What's more, this kind of program actually increases sales by referral. And the latter are generally what make or break you."

Foundation of Buckley and Scott's advertising program is its two-column personalized newspaper ad which runs on an average of every other week in each of Boston's four dailies. The ad, headlined "Tom Scott's Corner," features a picture of Scott (smoking a pipe) and contains homey first-person copy, each time discussing a different topic of the day.

Unlike the everyday newspaper ad, "Tom Scott's Corner" devotes most of its space to just talk—the comfortable kind of talk that anyone might find in the average living room on a winter's night. For example, it discusses around Election Day the rare privilege each American citizen enjoys in casting a vote. The column delivers a few thoughts on the subject, then leads into the subject of oilheating.

Others take random subjects at will, always within everybody's daily experience, then talk about Buckley and Scott's around-the-clock service, its promptness, clean and quick efficiency, courtesy of the serviceman—all with the idea that Scott knows what is best in heating comfort and efficiency and knows how to help his neighbors attain it.

"It's amazing not only in sales results but in the kind of reader response we get," says Scott. "People who read our ads—and most everybody who thumbs through a Boston paper sees them—call us up to comment on them. Regular customers take time to call or write a letter. Better yet, if one has a complaint, he phones me directly rather than the service department. Everybody says they feel the ads have made it possible for them to get to know me. What's more important, they feel that their heating system is in the hands of a friend."

Tom Scott

This personalized advertising program resulted from years of experimentation and record-keeping. By running occasional ads with no continuous theme, Buckley & Scott over a 13-month period gained 1,100 new customers while losing 600. Fully 395 of the accounts lost were moving to a new address. It was "two steps forward and one step backward" in Tom Scott's words.

A nine-month check of some 115 burner sales, when the company was running hit or miss ads, showed that 73 came through customer referrals, 21 through employe leads and only 21 through newspaper and direct mail advertising.

The company then added a radio spot schedule and assessed results of radio, newspaper and direct mail advertising over a year's period. The experiment at first was confined to service sales. Results were surprising to say the least.

On direct mail sent only to homeowners with oilburners, it found each lead cost the company an average of $8 and each sale of a $27.50 service contract cost $4.50. Of course, the cost was compensated somewhat by the fact that almost every service customer also bought his oil from the company.

Newspapers tested on the same item (the four Boston dailies, including two evening editions, three in the morning) returned leads at an average cost of $6.50, $11 per sale. Radio "on which we tried all the tricks" cost $45 per lead and $60 per sale.

"These extensive tests on service and oil helped us establish the media we wanted," says Scott. "Although

direct mail cost the least, it could only cover a certain restricted area and did not have maximum impact. We decided to continue the mailings but on a specialized basis. Newspapers were obviously our best means of covering the market completely."

Next step analyzed the newspapers themselves, to determine which had maximum impact in average oilheated or centrally heated home areas. A little research showed that of Greater Boston's 550,000 centrally-heated homes, 250,000 had oilburners (the service and fueloil market), 200,000 used coal (the conversion as well as future service and fueloil market) and 50,000 had gas heating.

"Once we established the readership of each newspaper in the various Boston areas, we were able to figure out which paper was better for conversion ads and which for service and oil. Of course, the newspapers overlapped to some extent but our study enabled us to decide where the emphasis should be placed."

After selecting the media, Buckley and Scott set about designing the type of newspaper ad that would be most effective. Salesmen were sent on a door-to-door survey testing copy. The answer to why the homeowner had not purchased oil heat was sought. Main reason, the survey found, was "to save money." Second reason in frequency was that the homeowner was under the misconception that he received a steadier, more comfortable heat with coal despite the work involved. Third was misunderstanding of oil heat.

Based on these findings, a series of ads were worked out, all featuring the headline "Save up to $100 a Year on Fuel and Stop Shoveling Coal."

An 800-line ad which ran on August 19 last year produced 44 conversion leads and 25 sales. An August 27 ad produced only five leads and two sales because of a sudden hot spell. Another on September 7 brought 50 leads and 20 sales.

"We felt we were on the right track but the ads were expensive," says Tom Scott. "So we reduced them to 400 lines. The first one produced 30 leads and 18 sales—equal in effect to the larger ads. Results were about the same on burner service ads. But overall, the cost of the ads was still too much per sale."

Scott reasoned that if an impartial ad could have fairly good returns, one that emphasized the fundamental of personality, gave the company an individuality as a person, might have even better effect. "After all, the average homeowner buys oilheating and fueloil from the heart. For years, it was his own baby, his own responsibility down the cellar. When he got ready to give over his responsibility to someone else, he wanted to entrust it to a friend. Result—'Tom Scott's Corner' —a corporate personality."

Once the format was worked out, Buckley and Scott brought into play all its tested findings. First, 40 ads were scheduled in each of three newspapers since experience had proved there were 40 effective weeks for heating advertisements.

Scott worked out a record sheet to schedule the ads for particular weeks in the different newspapers and list returns. He used his findings on the individual merits of each newspaper to select the time each type of ad should run.

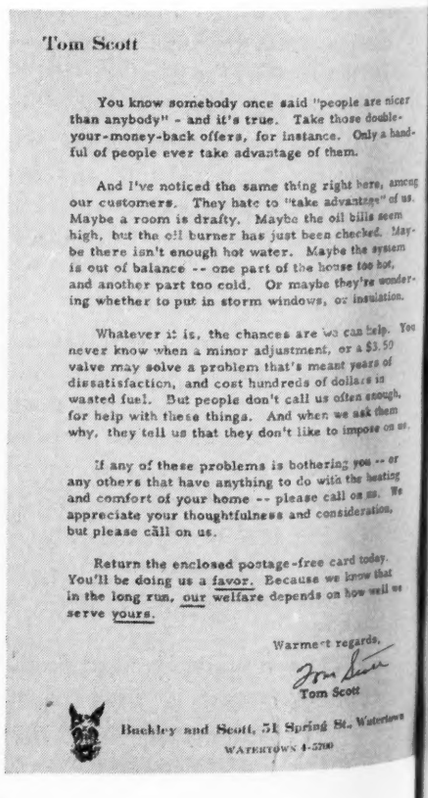
In general, Buckley and Scott ads stress oilburner sales from August through October. Replacement sales are pushed in October and November. January through March features replacements and corrective heating work. Service is the theme from March through May.

Direct mail still occupies an important place in the company's program. Each monthly statement contains a one-page memo type letter bearing Tom Scott's name in a corner. The letter generally discusses some phase of heating and urges the customer to call immediately if he is not getting full satisfaction. Rather than trying to sell anything directly, it gives the customer a feeling that he is dealing with a friendly personality. Scott now gets many calls from customers, sometimes just to comment on the letter, at other times asking if some heating deficiency can be corrected.

"As long as they keep asking us," explains Scott, "we know we won't lose them. The trouble comes if they don't bring their complaint to us but go somewhere else."

The same type of memo but with a selling message is sent out several times a year following the newspaper selling schedule. At the same time, four regular letters are sent—one each at Christmas, spring, fall and Thanksgiving—thanking them for their business and enclosing a small token such as a packet of seeds in the spring or a small seasonal memento in the fall.

Although the company's advertising program was launched on a long-term basis in an effort to build up a personal following, immediate results have been gratifying. Buckley and Scott expects to sell more than 250 oilburners in 1955, deliver over 25,000,000 gallons of fueloil in its 15 trucks. If its corporate personality, which it developed through planned advertising methods, continues to catch hold at the present rate, it may well exceed this goal. Even if it doesn't, Buckley and Scott is certain its advertising dollars are hitting the mark.



Tom Scott

You know somebody once said "people are nicer than anybody" - and it's true. Take those double-your-money-back offers, for instance. Only a handful of people ever take advantage of them.

And I've noticed the same thing right here, among our customers. They hate to "take advantage" of us. Maybe a room is drafty. Maybe the oil bills seem high, but the oil burner has just been checked. Maybe there isn't enough hot water. Maybe the system is out of balance -- one part of the house too hot, and another part too cold. Or maybe they're wondering whether to put in storm windows, or insulation.

Whatever it is, the chances are we can help. You never know when a minor adjustment, or a $3.50 valve may solve a problem that's meant years of dissatisfaction, and cost hundreds of dollars in wasted fuel. But people don't call us often enough, for help with these things. And when we ask them why, they tell us that they don't like to impose on us.

If any of these problems is bothering you -- or any others that have anything to do with the heating and comfort of your home -- please call on us. We appreciate your thoughtfulness and consideration, but please call on us.

Return the enclosed postage-free card today. You'll be doing us a favor. Because we know that in the long run, our welfare depends on how well we serve yours.

Warmest regards,

Tom Scott

Buckley and Scott, 51 Spring St., Watertown

WATERTOWN 4-5700

Each monthly statement *sent out by Buckley & Scott is accompanied by a memo-type message similar to this one. They follow a general pattern in discussing some phase of oilheating and suggesting that the customer call in or return an enclosed postcard if some problem with "your oilheating system is bothering you."*

OHI Chicago Sessions stress management, technical Topics

THE GENERAL SESSIONS, held during the 33d annual convention of the Oil-Heat Institute of America, Inc. in Chicago at the Conrad Hilton Hotel, April 20 and 21, stressed management and technical topics for both manufacturers and oilheating dealers who attended.

The meetings on April 19 of the Institute itself, its divisions, sections and committees, were reported in the May issue, along with the details of the action taken, officers and directors elected. The following report then will concern itself with the sessions that made up the National Oil Heat Conferences, arranged for the last two days of the convention.

The Conference opened with a morning meeting on April 20, George E. Hochstein, The Heil Co. and new Institute President, acting as chairman. The principal speaker during the morning was Richard Canavan, assistant director of the Construction Dept. and Research Institute, National Association of Home Builders.

Canavan explored the ways that manufacturers and dealers can use to get builders interested in their products. He remarked that home building is a full-blown industry, which status it has achieved almost overnight. The builders, he continued, are business men, skilled in finance, production and merchandising and they are anxious to obtain from oilheating concerns all the merchandising help and aid that is available.

Less than 5% of the homebuilders, said Canavan, build half of the houses, but it must be remembered that the medium and small builders also are potent factors in the industry and all contribute collectively to its success. The large builder, usually, is large because of his concept of management; the medium builder is similar but operates on a more elementary basis; the small builder generally is such from choice.

Canavan suggested that manufacturers should let builders know in advance about new products. This is particularly important in the case of the large builder who may be committed up to six months or more on equipment. Also, in this regard, Canavan was emphatic in saying that the custom builder and residential architect are important contacts on new products, because they tend to set the trend for speculative builders.

Basically, he continued, the need for oilheating equipment on the part of the builder can be summarized by saying he needs a package at a price. Particularly, he wants compact heating units for basementless homes, he needs merchandising aids and promotion on equipment to use in selling the home he builds and its contents.

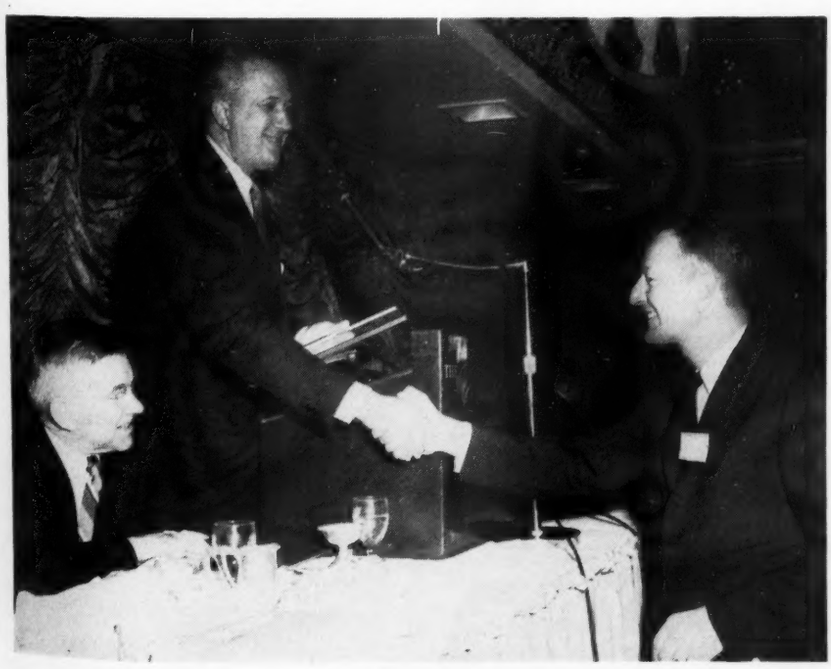
The market is becoming more competitive and the builder needs and wants whatever help he can get from oilheating companies. "Remember," Canavan concluded, "he's the eventual seller of a lot of your equipment."

Earlier Canavan had predicted that the expected market for new homes would continue to be more than a million homes annually until 1960 and then probably would increase. Half of these, he said, would be for new families and about half for replacement, plus an estimated 800,000 remodeled or modernized units.

The program was concluded with a presentation by Henry Bernhard, *Life* magazine, covering A.C.T.I.O.N. (American Council to Improve our Neighborhoods, Inc.), a progressive program on rehabilitating and modernizing American urban areas.

During the afternoon of May 20 there were two management sessions held, one designed to interest manufacturers and the other arranged to acquaint dealers with successful methods used to insure profits in the service and installation departments.

M. A. Schneider, Jr., vice-president, Pure Fuel Oil Co., Berwyn, Ill., moderated the first half of the dealer man-



C. R. Holloway, *Liberty Fuel & Ice Co., Portland, Ore., accepts his Igniters' Award from Paul K. Addams, Fitzgibbons Boiler Co. and retiring president, Oil-Heat Institute of America. The presentation was made during the Industry-wide luncheon that took place on April 21 in Chicago as part of the Institute's annual convention. Looking on approvingly is The Honorable Douglas McKay, Secretary of the Interior, who was principal speaker at the luncheon and who, incidentally, is another of Portland's distinguished citizens. Other recipients of Igniters' Awards at the same time were: William E. Allman, Dalton Coal & Supply Co., Gary, Ind.; E. P. Hacker, Ballard Oil & Eqpt. Co., Portland, Me. and H. M. Spade, E. Robison, Inc., Hartsdale, N. Y. Excerpts of the formal citations read when the awards were made appear on page 67 of the May 1955 issue.*

agement session, devoted to "Profit with better Service and Installation." He introduced Charles Burkhardt, who, speaking as general manager of Paragon Maintenance Co., Mineola, N. Y., explained how his company sells service security and operates with the conviction that the service department is a separate entity and must carry its own weight and show a profit. Burkhardt delivered virtually the same talk last February in New Haven at a management clinic conducted by the Connecticut Petroleum Association. A rather comprehensive digest of his talk was published in the May issue as part of the feature, "Making Service profitable."

Miles Mills, Oils, Inc., Des Moines, Ia., was the second speaker, telling how "Preventive Service means fewer Calls." He explained, "Preventive service involves a knowledge of the most common sources of trouble with equipment and steps taken to guard against these potential danger areas from creating equipment inefficiency or failure. The term refers, too, to detection and repair of actual defectiveness which would cause trouble at some future time."

The most common form for doing preventive service, Mills continued, is to perform this work during a regular check-up or overhaul or during an emergency service call. Then the serviceman not only corrects the immediate complaint, but makes an over-all check of the oilburning system. This takes longer per call, Mills conceded, but has resulted in fewer calls being made and has enabled the company to cut down on the size of its service force so that it is possible to concentrate on hiring the more skilled mechanics.

Retaining and adding heating oil customers in the face of the competitive situation in Des Moines, where fueloil costs 65% more than natural gas, is difficult at best, Mills said, and preventive service definitely has helped to retain old customers because it has resulted in less service complaints and more satisfied customers.

Other advantages that accrue from a program of preventive service include the above referred to reduction in the number of servicemen. Then, as a sales tool in obtaining new customers, preventive service, with its offer of a free annual inspection, "has been the most important single feature that has sold heating oil users on purchasing from us."

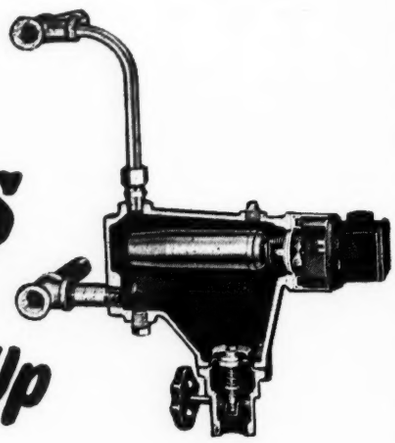
Of equal importance, too, Mills stated, is his company's ability to retain present customers from one season to the next without "the need for a supply contract," another result of the preventive service program.

We accomplish this, he went on, "with publicity near the end of the heating season building up the approaching free inspection." This includes a letter thanking the customer for past business and saying "something to the effect that if we do not hear from the customer we shall assume that he will continue purchasing from us the following heating season. And, in the meantime, he will receive our free thorough inspection. With enough selling, a very high percentage of our customers is persuaded to continue with us."

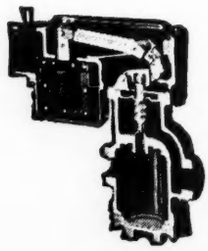
Preventive service steps also uncover

(*Please turn to page* 106)

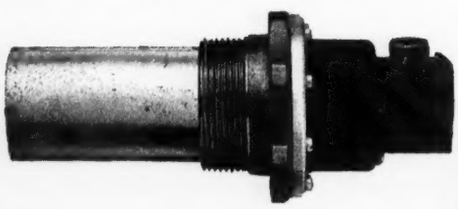
CHECK CUT-OFFS and FEEDERS with each Summer Clean-Up

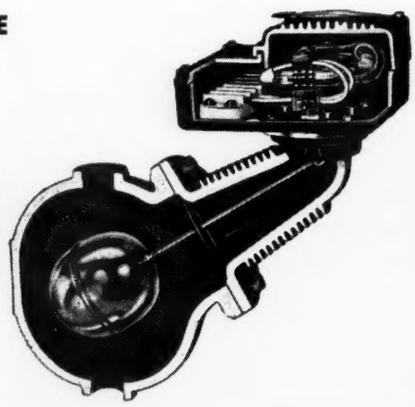


Low water cut-off and Boiler water Feeders are installed for SAFETY. Test and clean them with every summer clean-up. *Be sure.* If the action is sluggish . . . If the strainers are badly clogged . . . Don't take a chance—Replace them! Sid Harvey's has guaranteed rebuilt Feeders and cut-offs—All makes—All models—in stock. Low cost.



IMMEDIATE EXCHANGE
No Waiting





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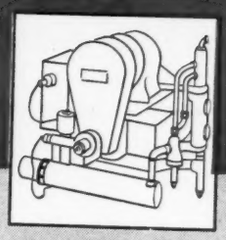

COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

Controls for heavy Oilburners

Purpose, Types and Functions of Controls used with commercial-industrial Oilburners

by

Carl Swanson*

THE PURPOSE of the control system on commercial and industrial oilburners is as follows:

1. Provide a means of starting or stopping the burner either automatically or manually (controller).

2. Start the burner in the proper sequence and supervise the burner flame during its operation (primary controls).

3. Prevent excessive pressures or temperatures on low water conditions from occurring in the boiler (limit and safety controls).

4. Regulate the burner firing rate (firing rate controls).

5. While the burner is off—keep it in readiness for the next operation (interlocks).

No single control is capable of providing all of these functions—instead a complete control system is needed.

Types and Functions

A. CONTROLLER.

The controller may be an automatic temperature or pressure sensing device designed to operate the burner to keep the boiler within set limits of pressure, water temperature, or air temperature, depending upon the medium being heated. The controller also may be a start-stop station which allows the operator to manually start and, if desired, manually stop the burner.

B. LIMIT AND SAFETY CONTROLS.

As a check upon the controller and to provide a maximum limit beyond which the burner should not be allowed to operate, a limit control should be provided, responding to either boiler pressure, boiler temperature or air temperature. On steam boilers it is also necessary to provide a low water cutoff to prevent burner operation should the water level drop below safe limits. In addition, if the boiler has a feed water or condensate return pump, this is started prior to the low water cutoff action to return the boiler water to the desired level.

C. PRIMARY OR PROGRAMMING CONTROLS.

This is the heart of the control system and provides a means of starting the burner in its proper sequence, sensing that the flame has been established and supervising the flame during the burner operation.

D. FIRING RATE CONTROLS.

The majority of the commercial and industrial burners have a means of varying the firing rate to the load demand. This may be accomplished electrically or pneumatically, and involves changing the firing rate (both air and oil simultaneously) either from high fire to low fire, or modulating the firing rate as the system demands. Where firing rate controls of the high-low or modulation type are provided, a guaranteed low fire start is required to provide a smooth startup.

E. BURNER INTERLOCK CONTROLS.

The function of interlock controls are twofold:

1. Prove that the conditions for combustion are established.

2. Prove that the burner is ready to be fired.

Starting interlocks would include uptake damper positioning, and oil preheater controls. Running interlocks would include pilot gas pressures, combustion air pressures, electrical starter interlocks and furnace draft controls. Smaller burners would not require all of these interlocks in their control system, however, on the larger burners the majority of these interlocks would be required.

The primary burner control—often called the programming control—can be classified by their flame sensing means into two main categories—mechanical and electronic.

Type of flame sensing Means

A. MECHANICAL MEANS OF FLAME SENSING.

1. Stack temperature—Here the sensing element is a bi-metal helix or rod and tube located in the stack or in one of the boiler passes and sensing stack temperatures.

2. Radiant heat—The sensing means is a diaphragm or bi-metallic element responding directly to the radiant heat of the flame, or a bi-metallic element within a glass enclosure responding to the radiant effect of the flame.

3. The mechanical types of flame sensing controls, in responding to the presence of a flame, complete a circuit to continue the normal sequencing of the burner startup when flame has been proven.

B. ELECTRONIC MEANS OF FLAME SENSING.

1. Conductivity of a flame—This means of flame sensing utilizes a flame rod and depends upon the ability of a flame to conduct a current in order to determine whether or not a flame is present. The flame rod is used primarily to check the gas pilot on the commercial oilburners or the pilot and/or main gas flame of a combination gas-oilburner. However, a flame rod deteriorates in the presence of oil flame, so it cannot be used satisfactorily for sensing the main oil flame.

ALTERNATE MEANS OF FLAME SENSING.

2. Radiant energy from the flame:—This may be broken down into two types—the visible or luminous energy from the flame, and the invisible or infra-red radiant energy from the flame—each with its own means of sensing:

a. Visible energy from a flame or luminosity. A photo emissive cell is used as a means of flame detection responding to the visible portion of the flame. A light from the flame causes

*Market Manager, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Paper read at the Commercial-Industrial Conference, April 21, during the 33d annual convention of the Oil-Heat Institute of America, Conrad Hilton Hotel, Chicago.

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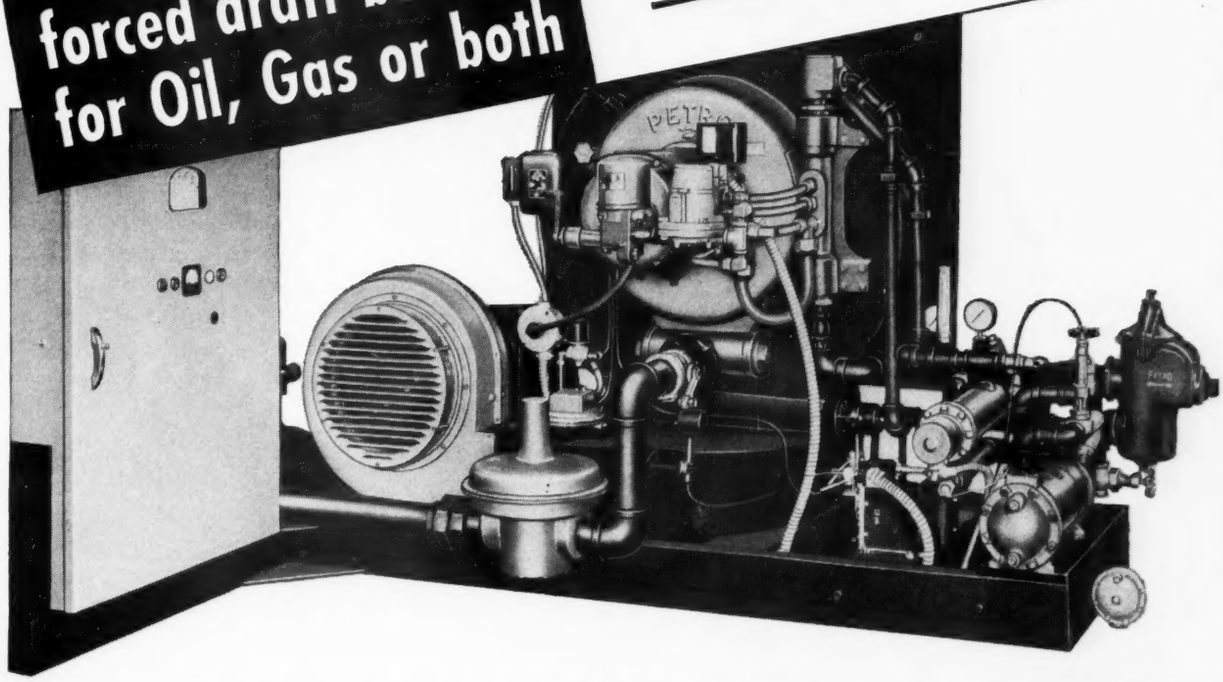
Petro
forced draft burners for Oil, Gas or both

A COMPLETE FIRING SYSTEM IN A SINGLE PACKAGE



Quickly converts your present boiler to automatic firing

LOW FIRST COST

This Petro package unit is much more than a conversion burner. It is a *complete* combustion system in which all elements are correctly balanced—and integrated—a thoroughly engineered firing plant.

Includes burner (for oil, gas or combination oil-gas), fuel system, forced draft air supply, control panel, and preformed refractory combustion throat. Installation requires little more than bolting the entire unit to the boiler-front, and making safety and service connections for power and fuel.

ENCLOSED CONTROL PANEL

Neat, safe, and complete—the Petro control panel is totally enclosed with all instruments wired and tested at the factory. Can be attached to frame as shown, turned 90° or 180° or mounted elsewhere in the boiler room.

LOW FUEL COST

OIL—Petro's highly efficient horizontal rotary oil burner is adaptable to the entire range of fuel oil grades. Exclusive Petro Thermal Viscosity System automatically heats the heavier oils before injecting into atomizing cup. Assures quick pickup with sure and economical firing of lower cost fuels.

GAS—Designed for all types of gas—high or low pressure—the Petro circular arrangement of multiple gas jets provides a thorough mixing of gas and air *ahead* of the combustion zone. A real fuel saver. Adaptable to steady or fluctuating load requirements.

COMBINATION OIL-GAS—In one compact unit. Gives alternate stand-by fuel and permits taking advantage of fuel price fluctuations. Fuels can be switched in a matter of seconds.

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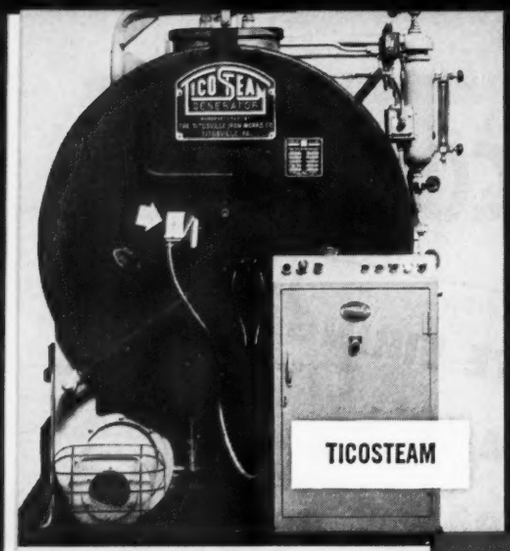
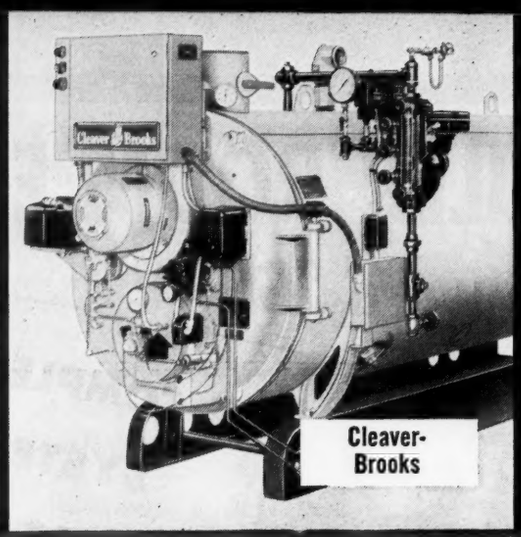
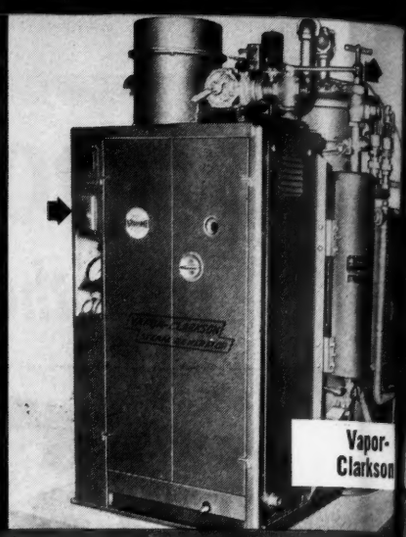
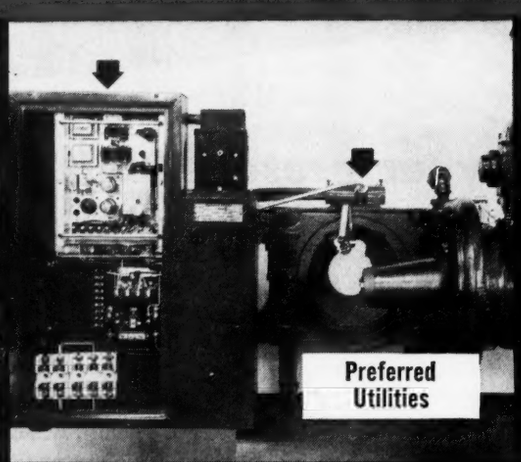
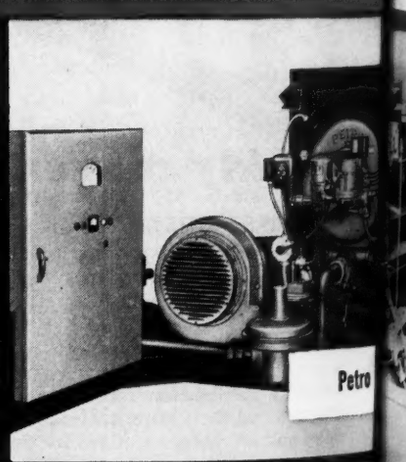


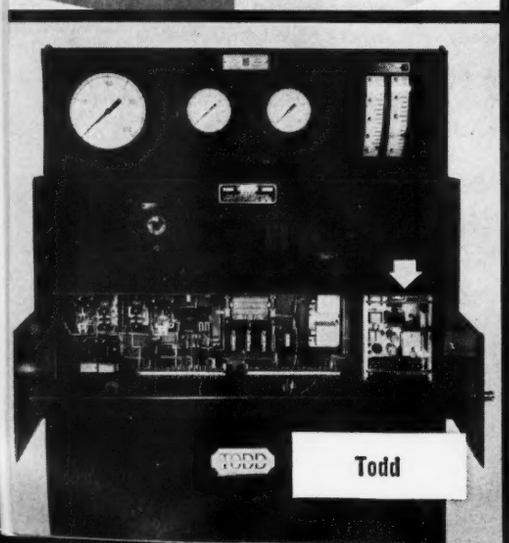


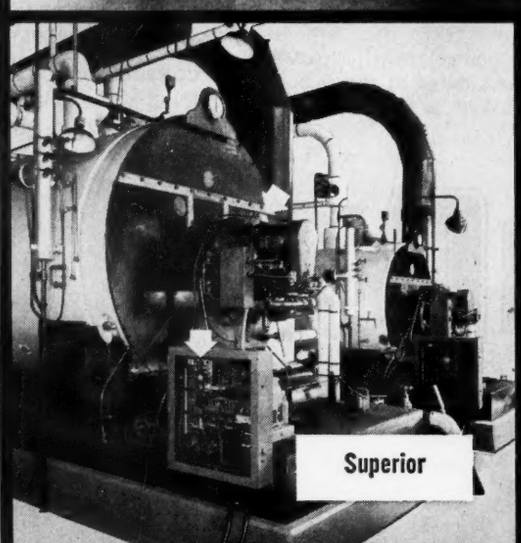


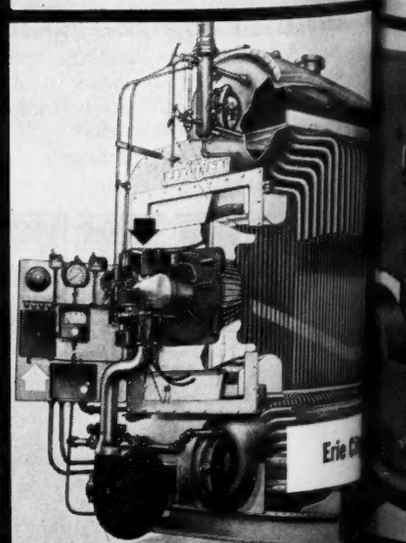
9 out of 10 packaged burners are equipped with.

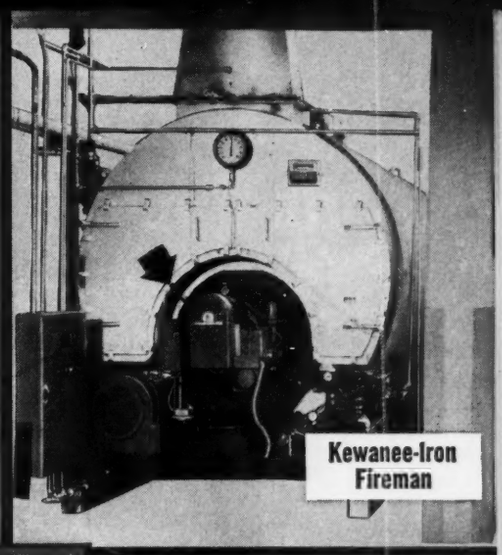












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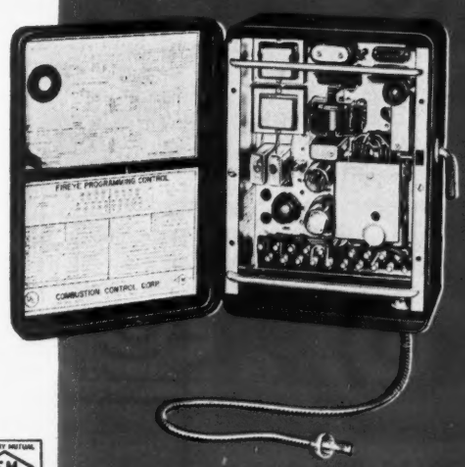
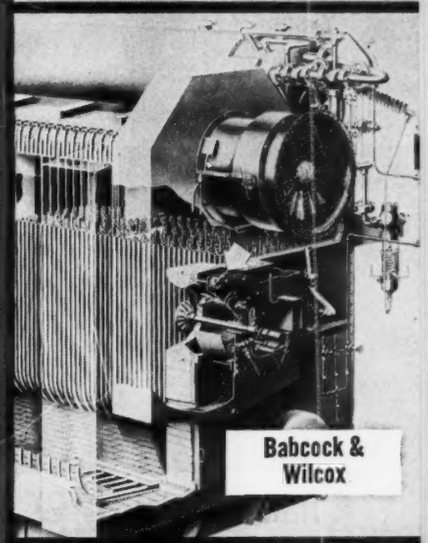
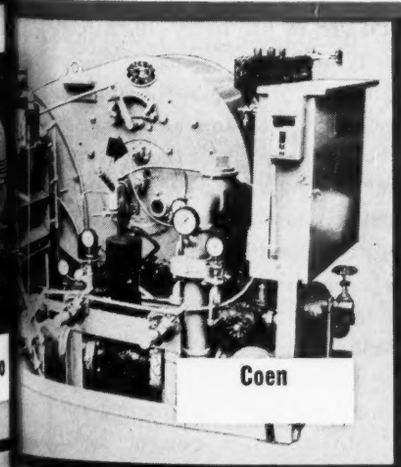
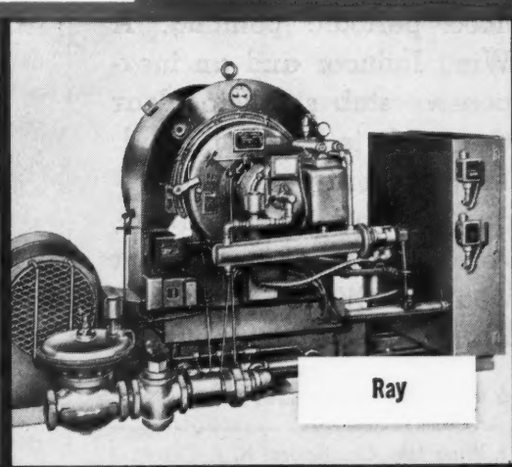
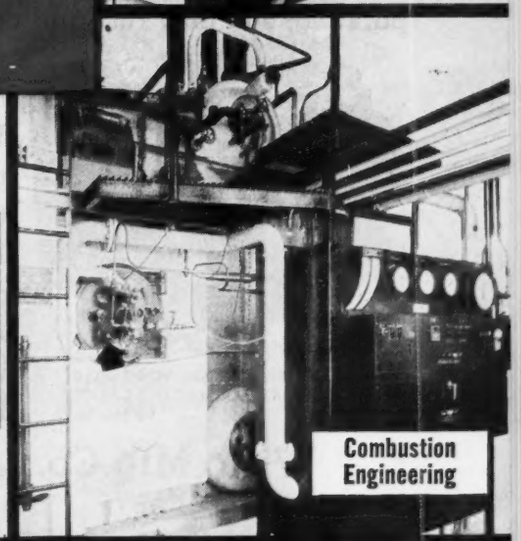
FIRST AND FOREMOST IN **INSTANT** FLAME FAILURE PROTECTION

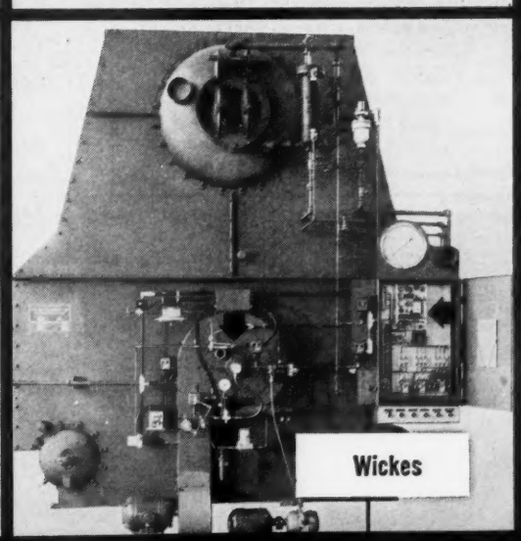


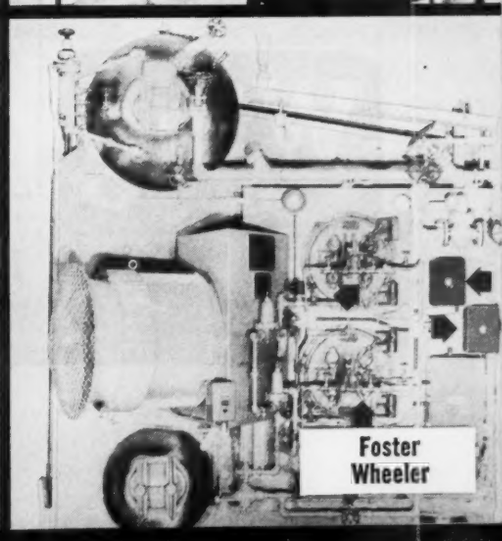




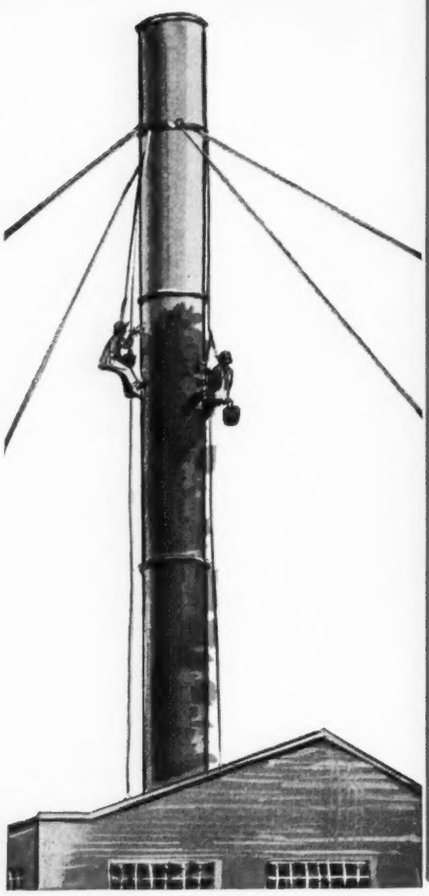








COMMERCIAL & INDUSTRIAL oilburning



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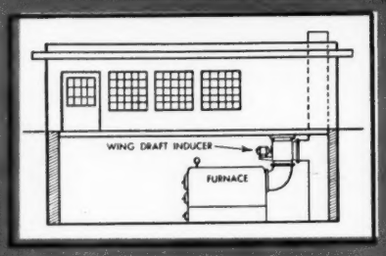

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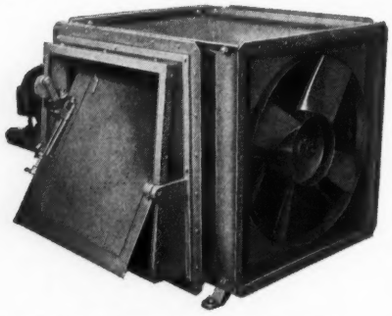

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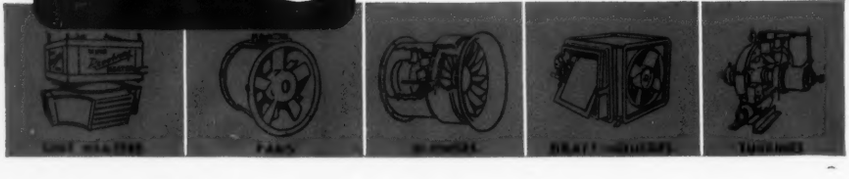

the photocell to become a conductor and pass a small signal. Two general variations of photo emissive cells are used today depending on whether the system is of the conductivity or rectification type. However, both basically respond to the visible radiant energy from the flame, and in a similar manner, both become conductors.

b. Invisible radiant energy. Here a lead sulphide cell, which is a photo conductive cell, responds to the invisible radiant energy of either a gas or an oil flame. The radiant energy variations from the flame cause a change in the resistance of the lead sulphide cell, giving a signal of varying intensities.

C. TYPES OF ELECTRONIC CONTROL SYSTEMS.

The extremely small signal from electronic flame sensing devices indicating that a flame has been proven requires a vacuum tube amplifier to build up the signal so that it can operate a relay, which completes a circuit to allow the normal sequence of the burner startup to continue. Two basic systems are in use today—flame conductivity and flame rectification.

Flame conductivity, as the name implies, utilizes the flame as a means of conducting a current or the light from a flame causing a photocell to conduct a current when flame is present. In either case, the alternating current signal is fed into the amplifier and stepped up to operate the relay.

Flame rectification requires the flame or the light from a flame affecting a photocell to change alternating current into a direct current signal. Again, this signal is fed into an amplifier and stepped up so it is capable of operating a relay.

Either system can use its photocell or the flame rod as a means of flame sensing depending upon the type of flame being proven.

Limitations of flame Sensing

A. MECHANICAL.

1. Stack temperature — The bimetallic element or rod and tube re-

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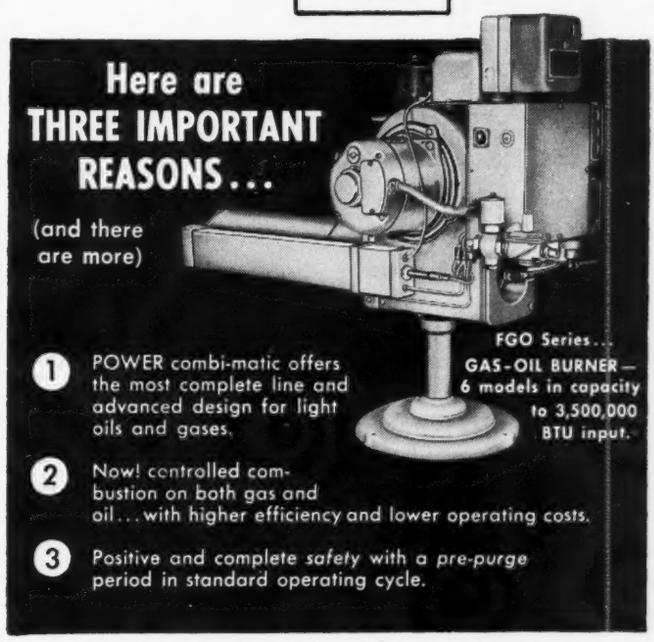
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spond to the temperature of the products of combustion and normally are located in the stack. This is a simple means of flame sensing, easy to install and adjust. However, because they are temperature-actuated and are normally some distance from the combustion chamber, they are slow to respond to a change in flame conditions. When subjected to temperatures above 1000° they are subject to fatigue causing sluggish operation or failure.

2. Radiant heat—This may be a bi-metallic element directly affected by radiant heat from the flame, or mounted within a glass envelope in front of a mirror which concentrates the radiant effect from the flame upon the bi-metallic element. Or, a metallic diaphragm may be used where the radiant heat from the flame causes expansion of the diaphragm. All types are quite easy to install for off-on type burners, but their installation becomes critical on those burners where the firing rate is changed and where they are required to distinguish between high fire, and low fire, or flame failure.

While faster in response than stack temperature sensing devices, they are still relatively slow in their response. These devices also have the disadvantage of being unable to distinguish between radiant heat from the flame, and radiant heat of similar intensity from refractories. This may result in slow recognition of a flame failure. Whenever the diaphragm or bi-metallic element is subjected to radiant temperatures above 1000°, it is subject to fatigue causing sluggish operation or even failure.

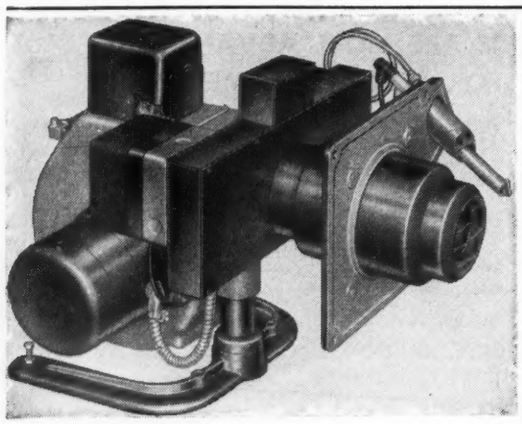
B. ELECTRONIC.

1. Conductivity of a flame—The flame rod is the sensing means utilizing the ability of a flame to actually conduct a current. The flame has a very high resistance so it is not a good conductor. However, the flame will conduct a small current between the flame rod inserted into the flame, and the burner head in contact with the flame when a power source is provided. Flame rods are used primarily to check gas flames—either the pilot or the main gas flame. Flame rods have not been too satisfactory a means of checking oil flames because of the higher temperature and the chemical reaction of the oil flame causing rapid deterioration.

When a flame rod is used to check a gas flame it actually pinpoints the location of the flame. Hence the location of the flame rod in the flame is very important because, properly located, it can prove the presence of a flame capable of safely igniting the main flame. Temperature limitations must also be considered. Metallic rods are available for temperatures up to 2200°F. and ceramic rods are available up to 2600°F. Short rods, without bends, are less subject to sagging than longer rods either with or without bends in the heat zone. These limitations require that care be exercised when applying a flame rod to a burner assembly.

2. Radiant energy from a flame.

a. Visible energy or luminosity. A photo emissive type cell is the flame sensing means which responds to the visible energy from the flame. Two



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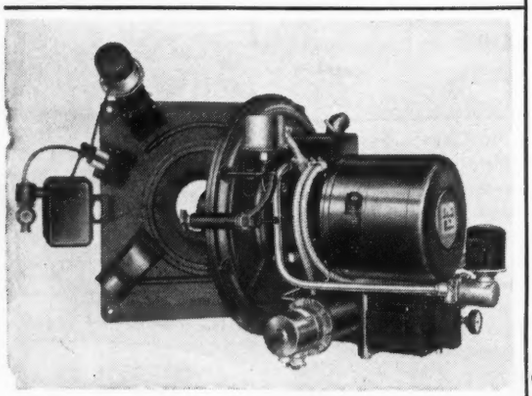

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variations are used. The gas filled type is used with the Flame Conductivity system and the light rays from the flame cause it to become a conductor and pass a small alternating current signal. The vacuum type cell used with the flame rectification systems also becomes a conductor when light rays from the flame affect it; however, it will conduct only in one direction. Thus, it changes alternating current into "half wave" or a small direct current signal.

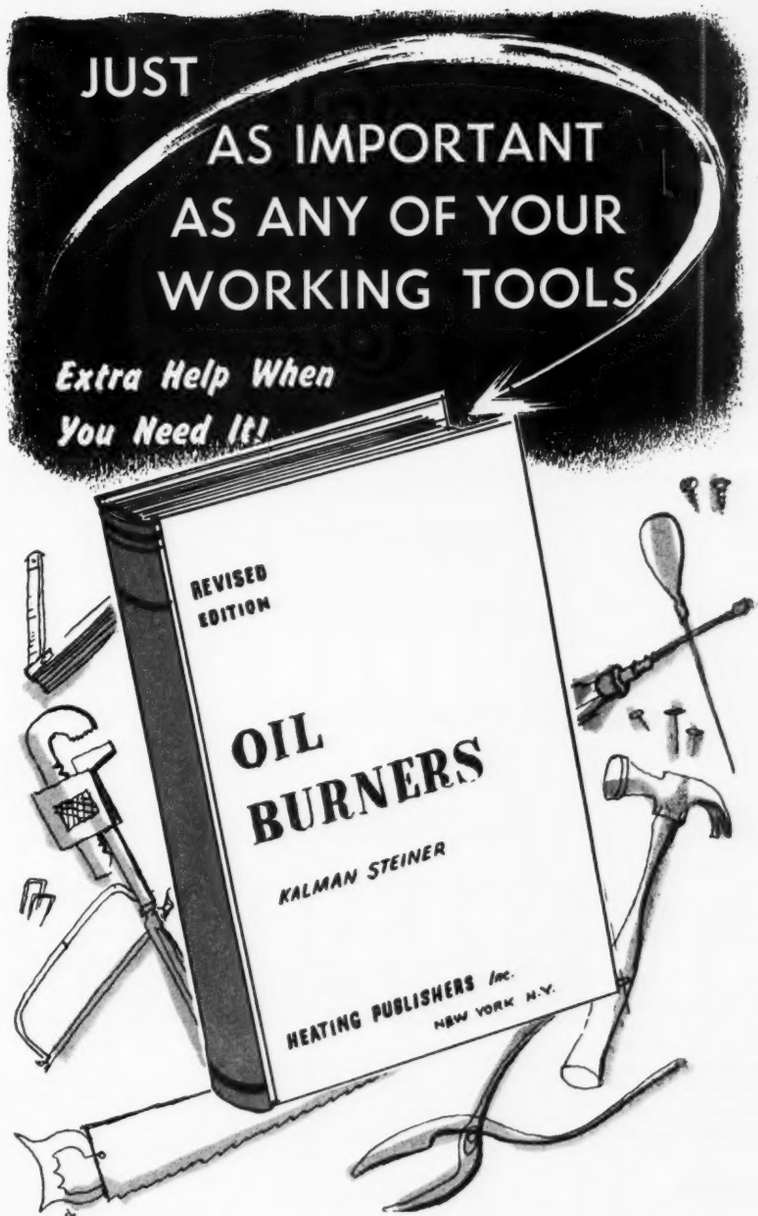
Both types respond to cone of sight and will react instantly to the presence or absence of a flame. Both are most sensitive to the red-orange portion of the flame's spectrum which predominates in an oil flame. Neither are recommended for detection of gas flames of the pre-mix type where the visible energy intensity is rather low and in the blue spectrum. So the photo emissive type cells have been used primarily as a means of detecting oil flames.

Use of the Photocell

When installed external to the burner, the photocell is as easy to install as a device using a radiant diaphragm, requiring only a good view of the flame; however, beacuse the photocells are more sensitive, care must be exercised so they do not respond to the visible energy or light rays from refractory which would falsely indicate the presence of a flame. A photocell installed within the blast tube of a pressure atomizing type burner requires more care in that the location of the cell should not adversely affect the flow of air within the burner tube.

Properly sighted, at the stable portion of the flame, they can be used on burners having a varying firing rate and will distinguish reliably between low fire and out fire. Maximum temperature limitations of the photocell is approximately 165°. Beyond that point they are subject to deterioration. This may require on certain applications that cooling air be provided to keep the temperature below the maximum limits.

b. Invisible radiant energy from the flame. The lead sulphite cell is a photo conductive type and is responsible to the infra-red energy variations from a flame. It can be used to check either



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an oil or gas flame. So properly located, it can prove a pilot and a main flame from one location. Like any other photocell, it views an area. Unlike the other photocells, however, its signal requires greater amplification. Hence, the system is much more sensitive. Consequently, considerable care should be exercised in the application of lead sulphide cell to the burner.

The sensitivity requires certain application restrictions. The application should be checked to prevent shimmer from hot refractory simulating a flame condition. Cell sensitivity will decrease as the level of the infra-red background increases. So a high level background of radiant energy may mask out the radiant energy from a flame. These two limitations may require orificing to restrict the viewing angle, thus minimizing the effects of background interference.

Because the cell checks an area, a pilot turndown test is essential to prove the availability of a flame capable of igniting the main burner. This, too, may require orificing. Changes in flame burning characteristics (energy output) may occur from a cold start to a hot fire box condition. So, the cell must be checked under all conditions.

Sensitivity of the lead sulphide decreases with cell temperature, so cell temperature should not exceed 125°. The sensitivity of the system requires that wiring from the lead sulphide cell to the electronic network be run in separate conduit or cable, and shielded by grounding to prevent interference from stray electrical pick-ups.

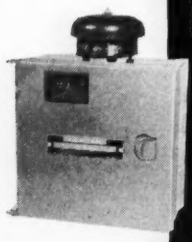
Flame Conductivity

C. COMPARISON OF FLAME CONDUCTIVITY AND FLAME RECTIFICATION.

1. Flame conductivity. The photocell to prove the main oilburner flame is relatively easy to apply. The main requirement is that the cell must have a good view of the flame and its maximum temperature must not exceed 165°. The photocell will conduct a current when light from the flame is present and the intensity of the current will depend upon the magnitude of the light as well as the distance from the flame.

Whether the photocell or the flame rod is the sensing means, the flame conductivity system is sensitive to resistance. Resistances in series with the flame sensing means decreases the flame signal. Resistances in parallel and within the same range as the resistance of the flame can cause a false flame indication. Induced voltages from other circuits also could cause false flame indications. For that reason, flame conductivity systems require that shielded cable be used from the flame sensing means to the electronic network.

2. Systems utilizing the lead sulphide cell resemble in some respects the conductivity systems in that variations in the flame energy radiations change the resistance of the lead sulphide element in the cell. However, the lead sulphide cell has advantages over a regular photocell in that it can respond to the energy variation from either a gas or an oil flame. Like the other photocell, a lead sulphide cell also responds to a cone of sight. However, because of the



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greater sensitivity of the system, a lead sulphide cell must be more carefully engineered in the application. Like the conductivity system, it requires a grounded conduit or a shielded cable to avoid picking up induced voltage from adjacent wiring.

This system of flame sensing finds its greatest application on package assemblies and complete boiler-burner units, where refractory conditions, drafts, turbulence within the unit remain essentially the same in the field as in the factory on initial application. On conversion burner installations, where there will be considerable variation of these same conditions, the lead sulphide cell application should be checked thoroughly on each installation.

Flame Rectification

3. Flame rectification—The application of the photocell to check the oil flame in a flame rectification system is relatively easy. The main requirement is that the photocell has a good view of the flame. Again, the intensity of the signal varies with the magnitude of the light from the flame and the distance from the flame. The photocell responds by rectifying alternating current to direct current.

The application of the flame rod on flame rectification systems is more critical and a stable pre-mixed pilot is a requirement. In order to obtain a DC signal from the flame, it is necessary that the size of the two conductors in contact with the flame be unequal in area of contact and the larger the ratio of the two areas, the greater the current. Consequently, the grounding area in contact with the flame is built up and the flame rod area is minimized. A pre-mix flame gives better contact with the grounding area, and because it is more stable, permits smaller flame rod contact. The pre-mixed flame is more stable and less subject to drafts and turbulence. It's also a higher temperature flame—preferable for igniting the main flame.

Nothing external to the electronic network other than the flame rod or the photocell can give a DC signal. So a shielded cable is not a requirement. Plastic covered wire is recommended over cotton covered or asbestos insulated wire which is subject to moisture pick-ups, causing resistances to ground and possible nuisance shutdowns. While flame rectification systems utilizing flame rods must be engineered more carefully than conductivity systems, the advantage of a stable premixed high temperature pilot is apparent.

Sequencing Requirements

A. PRESSURE ATOMIZING BURNERS.

Here is the normal sequencing requirement of the pressure atomizing burner: On a call for heat:

1. Energize the burner motor and the spark ignition simultaneously.

2. The oil valve may be energized immediately, or after a slight delay. The slight delay will allow the burner motor to get up to speed, thus more effectively atomizing the oil spray.

3. When the presence of the main flame has been proven, the ignition can be interrupted—some burners utilize constant ignition.

4. Upon a call for less heat, the burner motor and oil valve are im-

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mediately de-energized.

5. In the event of a flame failure, ignition may be returned immediately or a complete system shutdown may be desired.

6. Some applications may require either a pre-ignition purge or a post operative purge.

B. HORIZONTAL ROTARY BURNERS.

The following is the normal sequence of horizontal rotary burners:

1. On a call for heat, the burner motor is started.

2. In some cases, the ignition and gas pilot are delayed to provide a pre-purge. In other cases, the ignition and gas pilot are started with the motor.

3. If the pilot is being proven, its presence must be established before the oil valve can be opened—the oil valve may be opened immediately or at the end of the oil valve delay to allow the motor to get up to full speed so as to effectively break down the oil spray into fine particles.

4. A timed ignition period is usually required to stabilize the oil flame.

5. For hi-low or modulating type burners, a low fire start is required. The firing rate controls are returned to the command of the controller, either when the main fuel valve opens or at the end of the ignition period allowing them to go to high fire.

6. Both pilot valve and spark ignition are cut off at the end of the timed ignition period.

7. On a call for burner shutdown, the oil valve is immediately shut off, the burner motor continues to run for approximately 15 seconds to spin the cup clean.

8. In the event of a flame failure, the same sequence would occur—immediate shutdown of the oil valve followed by post-purge action from the burner motor.

C. STEAM OR AIR ATOMIZING BURNERS.

Where automatically controlled, the sequence is normally quite similar to that of the horizontal rotary burners. Frequently, they are manually operated; however, a basic flame safeguard system is usually required as an aid to the operator.

Other sequencing Requirements

A. FIRING RATE CONTROLS.

1. Low-high-off operation. Here the burner starts on low fire and the firing rate motor immediately builds up the flame to high fire, remaining at this rate until the system is satisfied.

2. Off-high-low operation. Here the burner starts on low fire and proceeds immediately to high fire; firing at his rate continues until the system pressure approaches the load demand, causing its return to low fire. If the system pressure falls, the operation may return to high fire or if the system pressure still builds up, the burner will be shut off entirely.

3. Off-modulating-off operation. Here the burner starts on low fire and the firing rate motor modulates both the air and the fuel to the high fire position after the burner start-up. As the load demand is approached, the firing rate is gradually reduced toward low fire position. If the pressure still builds up, the system is cut off.

4. Guaranteed low fire start. Starting on low fire is a requirement to pro-

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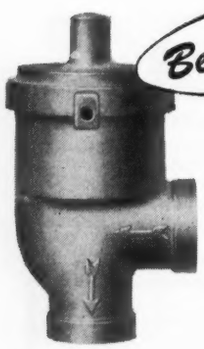

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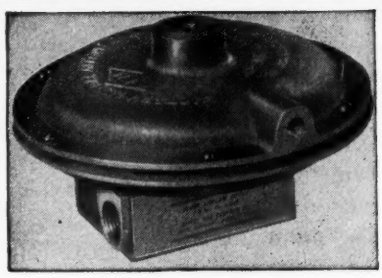

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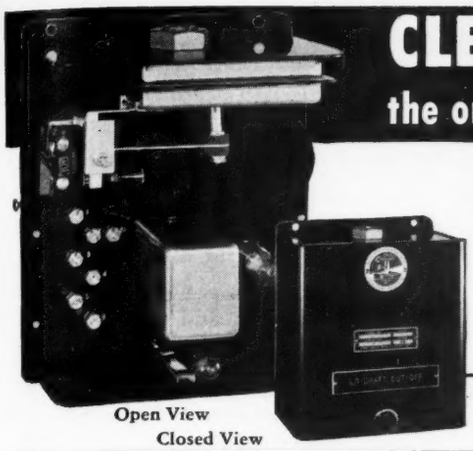

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vide smooth start-up on the larger jobs where the firing rate is changed during operation. On a call for less heat or a burner shutdown, the firing rate controls are driven back to the low fire position to be ready for the next operation. Provision is made so that unless the burner is in low fire position, the system cannot be started on the next cycle.

Definitions

1. An automatically lighted boiler is defined as one where the fuel to the main burner is turned on automatically by means of an automatic pressure —or temperature—controlled device. Prior to turning on the fuel to the main burner, the control arrangement automatically provides either an electric ignition source or electric-ignited pilot flame, where the main burner has a continuous burning manual pilot.

2. Automatic combustion controls are installed to vary the firing rate in accordance with load changes and to maintain a constant fuel-air ratio.

3. The term flame safeguard refers to a control device which senses the presence of a flame and will cause the fuel to shut off in the event of flame failure.

4. A supervised flame is a flame whose presence or absence is detected by a flame safeguard.

5. A proved pilot is a pilot flame supervised by a flame safeguard which senses the presence of the pilot flame prior to permitting the main burner fuel safety shutoff valve to open.

6. The flame sensing element of a flame safeguard may be a flame rod, a photo emissive cell, or a photo conductive cell.

7. A flame rod is an electrode extending into the gas flame being supervised and because of the conductive property of the ionized gases in the flame, a current flows through the rod to the flame safeguard control circuit. The flame rod generally is not suitable for oil flames.

8. A photo emissive cell is a device whose emission of electrons increases on exposure to luminous flames and thus permits current flow to the flame safeguard control circuit. It generally is not suitable for gas flames.

9. A photo conductive cell may be considered to be a device whose internal resistance is lowered on exposure to both luminous and non-luminous flames, thus permitting current flow to the flame safeguard control circuit. It is suitable for both gas and oil flames.

10. A programming flame safeguard, on lighting off, turns on the ignition system, determines the length of time it is on and when the pilot and main fuel valves open. On failing to sense the flame, all fuel is shut off and locked out.

11. The trial for ignition period is defined as that period of time the programming flame safeguard permits the main burner fuel valve to be opened before the main flame sensing device is required to detect the main flame. If the main flame is not detected, all fuel is shut off and locked out immediately and there is no longer ignition attempt.

12. Pilot-flame-establishing period is the length of time the flame safeguard permits the pilot fuel valve to be opened before the flame sensing device is required to detect pilot and/or main flame.

• SINCE 1926 • in the application, design and mfg. of pumps — separators — hydraulic accessories.

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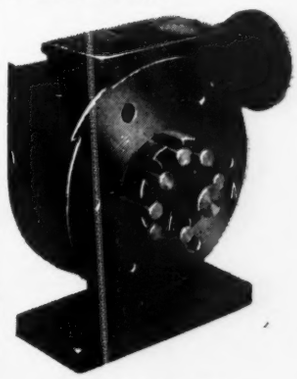
FUEL OIL PUMPS

Compact, lightweight pumps that operate at wide ranges of speed—to handle oils of all viscosities and give long trouble-free life.

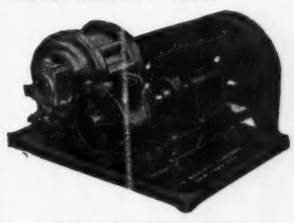
CLASS 50 LIGHT OIL PUMPS



Direct-drive design

Roller tolerances permit handling extraneous matter that would jam other mechanisms. Good suction characteristics. Capacities 60-600 GPH; pressures to 100 psi. Ask for Bulletin A-1330.

CLASS 60 HEAVY OIL PUMPS



Reduction-drive design

Time-tested Kraissl design for direct burner supply—or as booster pump. The pump that will pull heavy oil when it is cold. Capacities, 75-1800 GPH; pressures to 100 psi. Ask for Bulletin A-1193.

Bulletin A-1330 and/or Bulletin A-1193 . . . gives you full data—write for your copy today!

KRAISSL KRAISSL CO INC.

295 Williams Ave., Hackensack, N. J.

13. A continuous pilot is lighted by the fireman and burns without turndown throughout the entire time the boiler is in service.

14. An interrupted pilot is electric-ignited automatically each time there is a call for heat and is cut off automatically by the progarmming flame safeguard at the end of the trial for ignition period of the main burner.

15. An intermittent pilot is electric-ignited automatically each time there is a call for heat and burns during the entire time the main burner fires and is shut off with the main burner at the end of the call for heat.

16. Safe-start component check is a checking circuit usually built into the flame safeguard which prevents light-off if the flame relay contacts are in an unsafe position.

17. A manually lighted-fuel-fired unit is one where the fuel to the main burner can be turned on only by hand.

Petro holds dealer School on commercial-industrial Units

THE ANNUAL Industrial Burner Service and Installation School was held by Petro at its home office in Cleveland, Ohio, March 28-30, with dealers and distributors from all parts of the country in attendance.

Giving the distributors an opportunity to obtain factory training in advanced methods of installing and maintaining Petro's commercial and industrial burners, highlights of the school included discussions on proper sizing, start-up and adjustment of burners, both in the classroom and combustion laboratory, electronic controls, and a tour of the factory.

❖

Preferred Utilities issues electric preheater Bulletin

BULLETIN No. 1644B, issued by the Preferred Utilities Mfg. Corp., New York, N. Y., discusses electric heating of heavy fueloils.

An eight-page publication, the bulletin contains information and charts on such subjects as "All Electric Heating," "Electric Heating plus Steam or Water Heater," as applied to pump type burner systems and remote pump loop systems.

Description, recommendations, and selection data for Preferred Ribbon Heat are given, along with specifications, diagrams, and cut away drawings.

The bulletin is available on request from the company's headquarters at 1860 Broadway, New York 23, New York.

❖

Big burner Shipments drop behind March, '54

SHIPMENTS of commercial-industrial oilfired equipment dropped in March to 2,190, as compared to 2,728 in the same month last year, according to the Oil-Heat Institute of America. Even though March improved somewhat over February, the first quarter of this year shows 6,600 burners shipped as compared to 7,173 for the first three

Safety Heater approved by Board of Standards and Appeals—N.Y. City No. 832-52-SA
You Need a Good Oil Heater for Burning or Moving Heavy Fuel Oil!
Designed by expert oil heating engineers and manufactured in accordance with the highest accepted standards for materials and construction.
Manning & Lewis build fuel oil heaters for any application requiring heating for burning or bulk movement such as Power Plants—Hospitals—Apartment Houses—Commercial Buildings—Bulk Distribution Stations and Storage Tanks—All M&L Oil Heaters are suitable for heating the oil with hot water or steam.
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SALES REPRESENTATIVES IN PRINCIPAL CITIES
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M.L FUEL OIL HEATERS
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U-TUBE HEATER
SUCTION BELL HEATER
M&L

months of last year.

During March 676 horizontal rotary cup burners were shipped; 1,977 shipped during the quarter. The drop in shipments of this type of equipment represents most of the loss for the year.

A breakdown of shipments for the month is as follows:

	Oil-burners	*Oil-Gas Burners*
HORIZONTAL ROTARIES		
2½ and under	74	53
Over 2½ to 8	27	28
Over 8 to 30	270	9
Over 30 to 100	263	28
Over 100	42	1
Total Shipments	676	119
GUN BURNERS		
Over 5 to 30	1,274	59
Over 30	26	4
Total Shipments	1,300	63
MECHANICAL ATOMIZING		
30 and over	20	12
Total, all types	1,996	194

❖

Fluid petroleum Coke has Use as industrial Fuel

FLUID PETROLEUM COKE was successfully used as a fuel in an industrial plant operating at full capacity according to the Kaiser Engineers Div., Henry J. Kaiser Co., Oakland, Calif.

The test was made during kiln firing at the Permanente Cement Co., Permanente, Calif. Normal production operations were neither interrupted nor reduced when the coke was put into the fuel system.

The coke-producing process is a development of Esso Research & Engineering Co., and was supplied by Carter Oil Company's coking unit at Billings, Mont.

The fluid coke results from a refining process which converts heavy residual oils into light oil. It is substantially all carbon and is a dry granular material having the consistency of sand.

❖

70th Anniversary is marked by Orr and Sembower, Inc.

TWO BROTHERS-IN-LAW, the late Clarence H. Sembower and William Harry Orr, founded the firm of Orr & Sembower 70 years ago in Reading, Pa.

Originally called the Reading Engine Works, the company produced three vertical steam engines per week. The company incorporated under its present name in 1890.

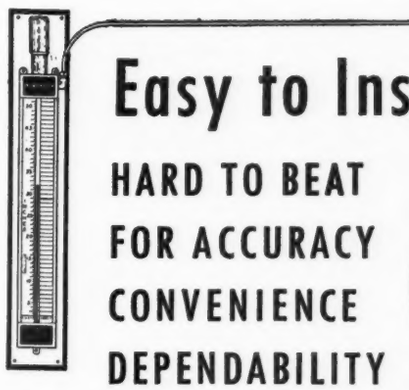
Today production is concentrated on the manufacture of packaged steam boilers.

Frederick H. Klein has been president since 1945. Other officers are W. K. Davis, secretary and assistant treasurer; John A. Tapparo, general superintendent; Edgar A. Burt, chief engineer; William B. Firman, manager of Powermaster domestic sales; and Philip C. Klein, manager of export sales.

Kewanee-Ross to retail Springfield's Generators

ACCORDING to a joint announcement recently made by the presidents of the Kewanee-Ross Corp., Kewanee, Ill., and the Springfield Boiler Co., Springfield, Ill., national sales of Springfield water-tube package generators will be made through the coast-to-coast network of 53 Kewanee-Ross Boiler Division sales offices.

Although the new name for the product will be the Kewanee-Spring-



Easy to Install

HARD TO BEAT
FOR ACCURACY
CONVENIENCE
DEPENDABILITY

PETROMETER

Remote Reading Tank Gauges

operate on the principle of static pressure—a principle that is simple and reliable. There are no complicated pulleys, springs, or electrical mechanisms to go out of order. This means easy installation and trouble-free operation.

Petrometer Gauges can be installed on tanks above or below the ground and up to ¼ of a mile away. The tank assembly unit can be installed even when there is liquid in the tank. The copper tube line from the tank is connected to the gauge with one simple compression connection. No setting up or adjusting on the job is required.

And the Petrometer is accurate. The divisions on the large vertical scale are almost twice those of other makes. The gauge scale has two indicating columns—one showing the depth in inches—the other calibrated to indicate gallons or other volume or weight units.

PETROMETER GAUGES ARE IDEAL FOR:

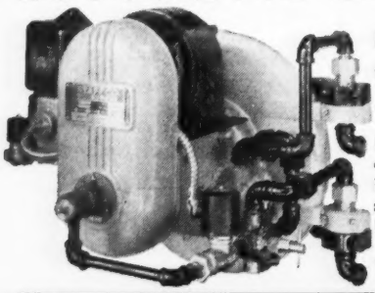
Petroleum Bulk Storage; Industrial and Domestic Fuel Oil Storage; Storage of Industrial and Chemical Liquids.

6 *Send for Bulletin PF today.*

LIQUIDEPTH INDICATORS, INC.

43-22 TENTH ST., LONG ISLAND CITY 1, N. Y.

RAYFIELD-STAFFCO
AUTOMATIC OIL BURNERS



Model VEA-R . . . designed to heat best . . . for LESS

For No. 5 and 6 fuel oils.

Patented, adjustable air vanes and other exclusive features. From a bungalow to a skyscraper, there's a dependable Rayfield-Staffco Oil Burner to handle your heating job.

Write for details on complete line.

RAYFIELD-STAFFCO BURNER CO.
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ENGINEERED FOR SAFETY, ECONOMY AND YEARS OF SERVICE...
GABRIEL BOILERS are adaptable to all types of fuel • A.S.M.E. code constructed • National board registered • Modern welded X-ray construction • 3-300 HP, 15-225 lbs. working pressures.
STEEL BOILER INSTITUTE CAPACITY RATED
(Your assurance of reserve power)
Boiler sizes for all industries. Write for name and address of your nearest Gabriel Boiler dealer.

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BUILDERS OF FINE BOILERS

IT'S EASY TO BRUSH UP ON OILHEATING!

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Yes, it's easy when you have a new revised edition of "OIL-BURNERS." It's a reliable source of up-to-date information on Fuel Oil, Oilburners, Fuel Data, Problems of Oil Burner Design, Domestic Oil Burners, Fans & Electric Motors, Fueloil Pumps, Ignition Methods, Capacity of Boilers and Warm Air Furnaces, etc. It is one of the most complete oilburner books ever published.

You can find the assistance you need in solving today's oilburner problems. You learn from the creative work of specialists by studying their methods, proofs, and conclusions.—502 pages, twenty-two chapters with illustrations, charts and graphs — $5.00. Postpaid — Please mail remittance with order.

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FUELOIL & OIL HEAT
2 WEST 45th STREET
NEW YORK 36

COMMERCIAL & INDUSTRIAL oilburning

field water-tube package generator, the sales arrangement does not affect or include Springfield's custom design and other types of field erected boilers. Springfield will do all the manufacturing of the generator.

❖

Prat-Daniel sales Meeting features heating Exposition

AS PART of a large dealer meeting that ran from April 25 through April 27, the Prat-Daniel Corp., S. Norwalk, Conn., converted their Thermobloc Division plant into an exhibition hall, temporarily transferring their manufacturing activities.

The company's entire line of warm air industrial heating equipment was displayed in actual operation including both oil and gas and combination units.

Sixty sales engineers attended the meeting from all parts of the nation and Canada.

Minneapolis-Honeywell *Regulator Co. had an exhibit at the Thermobloc annual sales meeting held at South Norwalk recently. Manning the Minneapolis-Honeywell exhibit were: John Jeffreys, William Brown, Herbert Williams and Arnold Michelson.*

❖

Letters

JOHNSTON BROTHERS, INC.
Ferrysburg, Mich.

Editor:

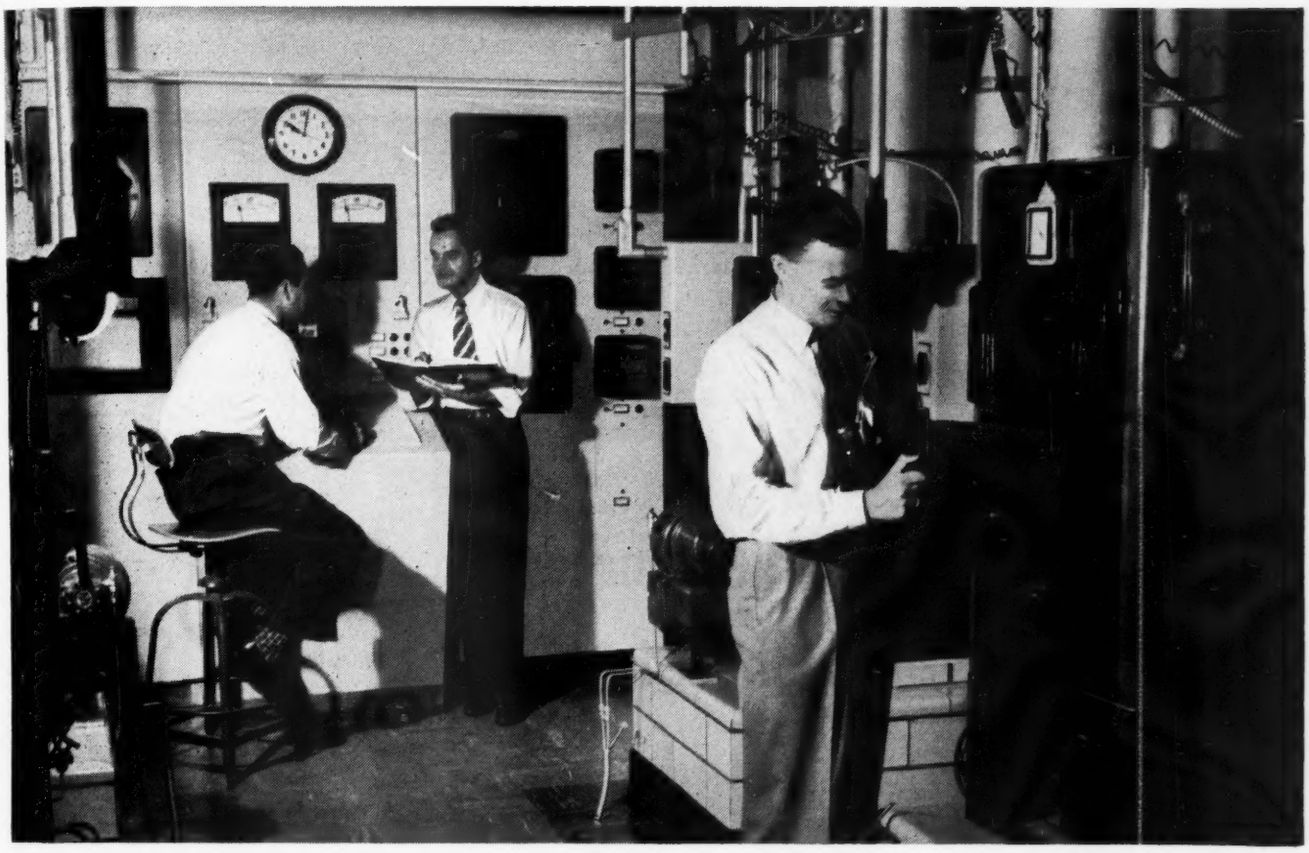
In reading the article on "New Products at the heating Show," (Feb. 1955, page 61), I noticed an article on the Fitzgibbons boiler-burner units stating that the complete wet back is exclusive with Fitzgibbons.

We would like to correct this statement inasmuch as we have been manufacturing complete water back boilers for many years and have in our files drawings of such equipment dated as far back as 1870.

Since 1931 we have catalogued complete wet back Scotch Marine heating boilers and sold them both packaged and without firing equipment.

J. F. JOHNSTON, JR.

Atlantic opens new heating oil laboratory



Another reason why Atlantic distributors profit from a constant flow of top-quality products

You are looking at specialists prepare an "ignition test" on a heating oil mixture in a modern burner—a typical scene in Atlantic's new Heating Oil Laboratory.

This is only one of many rugged tests made under controlled laboratory conditions. Every Atlantic distributor can be assured that every gallon of fuel will have the maximum heating efficiency.

Atlantic's "home-tested," *triple-refined* heating oil has a new additive that helps prevent sediment from forming in tank bottoms, lines, filters and burner nozzles. This makes for greater storage stability over long periods.

Because Atlantic Heating Oils are available at conveniently located pipe line or water terminals, Atlantic distributors can always depend on continuous, dependable supply.

Isn't this worth looking into? For further information call or write The Atlantic Refining Company at one of the terminals listed:

TERMINALS AT:

Providence, R. I.	Akron, Ohio	Baltimore, Md.
New Haven, Conn.	Allentown, Pa.	Salisbury, Md.
Albany, N. Y.	Altoona, Pa.	Richmond, Va.
Binghamton, N. Y.	Exton, Pa.	Charlotte, N. C.
Buffalo, N. Y.	Greensburg, Pa.	Greensboro, N. C.
Elmira, N. Y.	Johnstown, Pa.	Wilmington, N. C.
Rochester, N. Y.	Lebanon, Pa.	Spartanburg, S. C.
Syracuse, N. Y.	Mechanicsburg, Pa.	Albany, Ga.
Wayland, N. Y.	Northumberland, Pa.	Atlanta, Ga.
Newark, N. J.	Philadelphia, Pa.	Griffin, Ga.
Trenton, N. J.	Pittsburgh, Pa.	Macon, Ga.
Gloucester, N. J.	Reading, Pa.	Savannah, Ga.
Bridgeton, N. J.	Williamsport, Pa.	Jacksonville, Fla.
Boston, Mass.	Wilmington, Del.	

ATLANTIC

HEATING OILS

(*Begins on page 83*)

additional repairs or changes that ought to be made in oilheating systems and offer excellent opportunity to sell auxiliary equipment, such as airconditioners, dehumidifiers or hot water heaters. The annual free inspection, Mills explained, has been successful for us.

"It has proved to be an excellent lead to extra profits through the sale of additional services and goods, besides being a bulwark in our struggle with natural gas competition. As a matter of fact it was because of this competition that we decided upon a free annual inspection service instead of a service contract to form the basis of our preventive maintenance program."

And, "As a means of assuring the service department a profitable outcome on the free service performed, a charge per inspection made to the fueloil department partially defrays the expenses. The charges received by the fueloil department are treated as costs of sales and the service department depends upon additional chargeable service work, replacement parts, accessory and filter sales, to make up the difference and produce a profit."

Each customer's name is typed on a special inspection report form, made out in three copies. Two go with the serviceman who makes the inspection. He checks 23 operations that are performed, then fills in special instructions and a list of additional work and materials performed and has the customer sign both copies. One goes with the monthly statement, providing the user with a complete record of the inspection and the third becomes part of the service department records. These, Mills declared, have been most valuable when emergency service calls are received, because reference to the record affords a pretty complete picture of the installation.

Concluding, Mills said, "I would like to emphasize how terribly important preventive service has been to us with our highly unfavorable price situation in relation to the price of natural gas. Without such a program undoubtedly we would have lost a great many more customers through gas conversion than we have. In addition, our program has helped us immeasurably in competing with other heating oil distributors in our area. Furthermore, our program, far from being a one-way losing proposition, can contribute substantial profits, reduce calls and effect other economies."

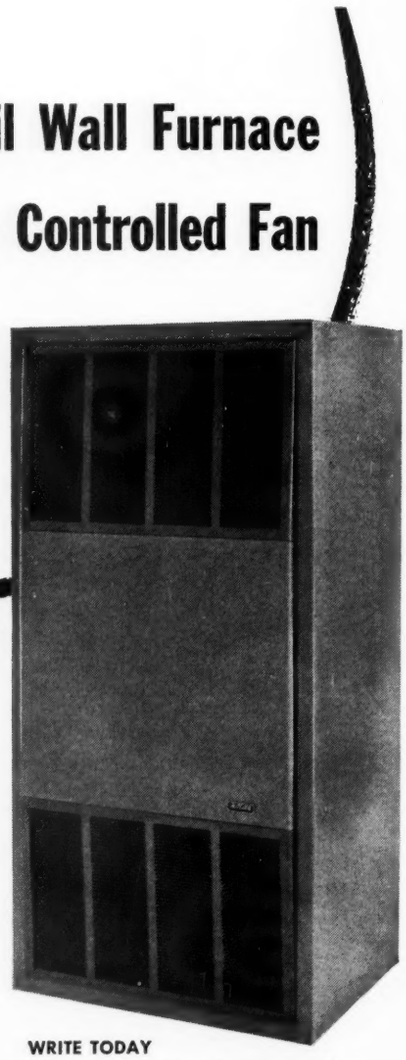
Third speaker on the service panel was I. Muesing, vice-president and general manager, Muesing-Merrick, Indianapolis, Ind., whose topic asked "Is Service the fuel Marketer's Responsibility?" His talk established that there is little question but that "Once you convert a customer, you're responsible for his complete and continuing satisfaction" and this can't help but include good, efficient service.

Muesing opened his talk with the observation that the customer is not interested in the fueloil he purchases, instead he's more concerned with the benefits and comfort he receives from the oil. Service, he defined, as "an unconscious condition to which the customer is exposed by his dealing with

New H. C. Little Oil Wall Furnace Features Thermally Controlled Fan

All previous H. C. Little advantages retained in new model, with added sales appeal of forced warm air circulation!

Here is the stuff that Sales are made of!



Low first cost

Low-cost installation – no ducts required.

Top smoke pipe outlet – located dead center.

Compact design – 30"x24"x62".

Dual heat discharge and cool air intake registers.

Heat even if electricity fails – unit can be operated by hand during power failure.

Economical operation – unit burns low cost furnace oil and specially designed combustion chamber has very high efficiency.

Full on, full off operation – with electric ignition and thermostat control.

Big heat output – 65,000 BTU per hour.

Quiet operation – no "blow torch roar."

No radio or TV interference – no high voltage spark.

Attractive finish – neutral hammertone baked enamel.

WRITE TODAY
for literature, prices and Dealer Franchise Plan.

Warehouse stocks in key cities Coast to Coast.

H. C. Little Burner Company, Inc.

San Rafael, Calif.

AUTOPULSE ..tips the scales

to get you more sales

You will sell more oil burning appliances when you sell each one equipped with an Autopulse Electric Fuel Oil Lifter because any oil burning appliance becomes more desirable when you add the automatic fuel supply feature. And Autopulse is *fully* automatic, it turns on when the burner needs fuel — off when the supply is replenished. Even when you are facing a customer who really needs the equipment — but just doesn't seem to be able to make up his mind — you can tip the scale in your favor by showing the prospect how little it costs him to have the extra convenience of automatic fuel supply — and the sale too, is automatic. Especially when the Autopulse Electric Fuel Oil Lifter is not only the best, but it is also the lowest priced. Stock the Autopulse Electric Fuel Oil Lifter and you will not only make more sales — you will add extra dollars to every sale you make. Write today — for complete information.

AUTOPULSE helps you meet competition from other automatic fuels

1. *Your Customer gets automatic fuel supply for less money than he would have to pay for any other Electric Fuel Oil Lifter.*
2. *The extra comfort and convenience that Autopulse offers, helps you sell in competition with other automatic fuel systems.*
3. *Autopulse is easy to install.*

Stock Autopulse and you increase both your sales and your profit.

AUTOPULSE *your automatic fuel supply*

AUTOPULSE CORPORATION 218 E. Dowland St., Ludington, Mich.

an oilheating dealer" and, he continued, the customer is completely unconscious of the fueloil dealer, most times, until he "needs you and when he does, brother, you're important." All in all, the "unconscious" customer is best because he scarcely realizes the dealer exists.

Relating responsibilities and duties of a fueloil marketer's service organization to the letters that make up the word "Service," Muesing made the following points:

"S"—for sales. A good service department needs a good sales department for replacement, modernization work, service contracts, etc. Whole organization must remember it is dealing with people.

"E"—for engineering. Good engineering controls methods of service and routines.

"R"—for repair. Servicemen, essentially, are repair men, not engineers. Oilburners are mechanical devices and, as such, need repair occasionally.

"V"—for value. Value of service can be measured only in terms of customer benefit. Service and its charges must be legitimate.

"I" for intangibles. How to give the customer more service for his money; how to let customer burn less oil at lowest cost; customer benefit measured only in what fueloil does for the customer and how few service calls are made.

"C"—for curiosity. An eagerness to learn and find out how each customer is satisfied with oilheating.

"E"—for enthusiasm, which permeates all other elements of the organization.

Muesing continued that coal as a domestic heating industry failed because the industry did not assume responsibility for heating service and coal became prohibitive in price "for what it could furnish the customer in competition with oil." With oil, too, Muesing warned, poor equipment, poor installation and poor service all add up to poor performance.

"Without good performance," he stated, "customers naturally will look for other fuels or better ways to do their heating job. Better customer satisfaction at lower cost must be our objective."

The second portion of this dealer management session was devoted to a study of "Putting Profits in Sales and Installations," with T. E. Carson, division manager, Sherwood Bros., Baltimore, as moderator. First participant was F. W. Heaney, general manager, Skaggs-Walsh, Inc., Long Island City, N. Y., who discussed "Pricing the Job for Profit."

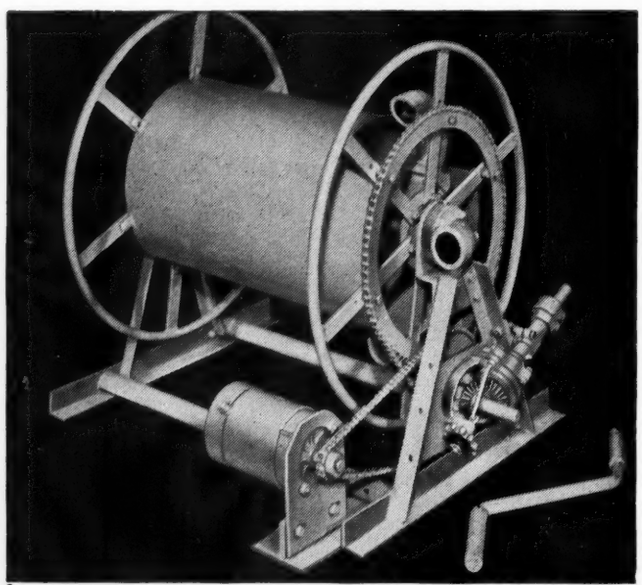
He said sales leads are our business, so that it is important for each dealer to be sure his salesmen are doing an honest job. Be sure they tell the truth and be sure your advertising tells the truth. In fact, Heaney posed four questions for dealers to ask themselves to evaluate their advertising: Is it the truth? Is it beneficial? Does it build good will and friendship? Is it fair and just to all?

"Don't be interested in volume," he continued. "Instead get interested in price; price your job right and sell it right." He described the mark-up system in his company, where sales are figured to return a 33-1/3% gross. Salesmen have some leeway in chang-

Unrestricted Flow

PHILADELPHIA HOSE REEL

proves leakproof after 1½ million revolutions



Electric driven reel for side box installation

Self-tightening seal enables it to stand up under toughest, heaviest work loads

The finest hose reel ever built for fuel oil, gasoline, compressed gases and chemicals. Will never wear out. Exhaustively tested.

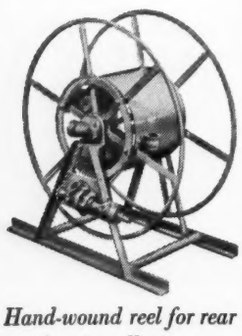
No leaking, no sweating after a million revolutions at pressure from zero to 100 lb. per sq. in.

A new, self-tightening seal in swing joint is the secret. This seal is easily, quickly replaced without breaking lines.

Features include light weight (85 lb.); holds 100 ft. of 1¼" hose; swing joint with clear, uninterrupted passages; every part steel, malleable iron or bronze—no cast iron; rigid base, welded throughout; six ball bearings on every reel; all working parts accessible; reel can be quickly unbolted.

This hose reel is made in all sizes from 1" to 3", for bucket or underslung box installation. Available with standard or explosion-proof electric motors, any voltage; air or hydraulic drives. We can equip them with automatic stop, level winder, friction, jaw, or electric clutches if desired.

Delivery usually within one week. Write for prices and details.



Hand-wound reel for rear box installation

PHILADELPHIA VALVE COMPANY

3413 ARAMINGO AVENUE • PHILADELPHIA 34, PA.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, Calif.
Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, Calif.

ing price quotations, but if they take a job, for instance, at a price that reduces the gross, the difference between the actual gross and the desired 33-1/3% comes out of the salesmen's commission.

To price for profit, Heaney continued, you must sell for profit and a sure way to accomplish this objective is to make your salesmen oilburner experts and not just price peddlers. "Sell the extra values you have to offer," Heaney concluded. "Sell your company, the advantages of your equipment, the service you render, its position in the community its background. Advertise and let the people know where you are and what you have to offer. Believe me, if you price the job right, you'll get an adequate return and won't lose money, if you're on the job."

W. P. Premer; general manager, Hager-Fox Htg. & Refrigerating Co., Lansing, Mich., spoke next on "Good Engineering pays," relating his company's experience in scientifically figuring, scheduling and installing warm air heating. Better than ¼ of Hager-Fox's business is in new house heating; over the past three years it has averaged 320 jobs a year at an average cost of $800. Through system, Premer explained, this volume of business is done with a total of seven men, one salesman who doubles as an over-all supervisor, one stacking man, one furnace installer, one layout and duct design man, two sheet metal erection men and a start-up or clean-up man.

"One duct erection man," Premer related, "can install the trunkline for an average house in one work day. Our furnace installer can install three furnaces and three basement oil tanks in two days." All of this, of course, comes after careful planning and scheduling or work and equipment.

The engineering begins, Premer said, with a heat loss determination, register sizing, preparation of a clear cut contract, which is complete and comprehensive and includes a hard copy which Hager-Fox uses "as a permanent record under which all costs of material and labor are posted, and upon completion of a job, this copy becomes our permanent service Kardex record."

Next in the engineering comes systematic field erection, including a sketch of the basement, "measuring the entire house to the nearest ¼" and locating every joist and all obstructions and showing all warm air and return air openings." From this sketch, Premer went on, a layout drawing is made and then the trunkline is sized, beginning with the run farthest from the furnace.

Equipment installation follows the same pattern in the jobs which Premer described, with duct work, register placement, clean-up and start-up completing the schedule.

"Engineering consists of giving men tools to work with," Premer declared. "From accurate heat loss and register sizing, good duct design, a system of writing a clear-cut contract to proper and thorough installation of ducts and furnace. Engineering in home heating can pay good profits."

"See 'Em to sell 'Em" was the topic of Myles Hall, president Como Oil Co., Duluth, Minn., concluding speaker on the panel. "Organized action in

My Uncle Down In Kentucky Wouldn't—But I Will

The Hancocks have been in all kinds of business in the United States—from boilers to politics—and one of them was the only signer of the Declaration of Independence in Philadelphia on July 4, 1776; and we have all learned that when we sell something to the public WE MUST STAND BEHIND IT!

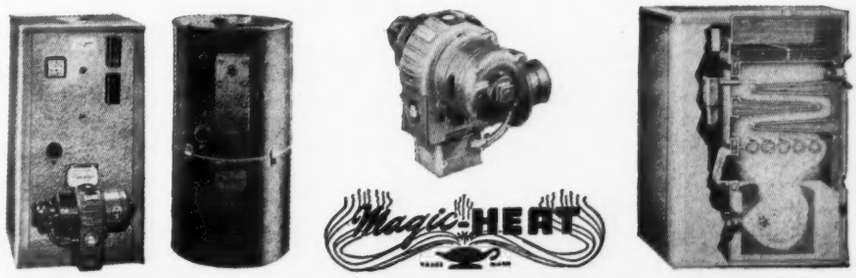
Down in Kentucky, where I was born and raised, only one Hancock ever refused to stand behind what he was selling, and I'll tell you about him at the end of this message.

When it comes to "standing behind" Marietta Boilers, we mean we guarantee our boilers to be made of the best quality of steel and accessories, highly efficient designs and careful workmanship. In these days, it isn't easy to do that in the steel boiler business, but it is the only way I have ever learned how to do business. Life is too short to go looking for trouble by doing anything but tell the truth about our product and by giving a good product at a fair price I am able to sleep easy at nights and likewise our customers. Our dealers know they are getting a square deal, and we know they can make profits with our boilers and that means profits to us. Drop us a note or come to see us and check up on our boilers—think you would be surprised how reasonably low they can be. This year 1955 is a time to sell and install the best. Won't cost you much to find out about us and our product, will it? My old Uncle Joe down in Kentucky, who I refer to above, wouldn't stand behind his products, because he raised and sold hard-kicking mules! Brothers, that's a joke down around Paducah—but when you contact us I'll give you some real facts about why we stand behind our products.

We welcome "you all" and your friends to our Exhibit at Booths 205 and 206 at the Biennial OHI Show at the Statler Hotel, Boston—June 7-8-9-10.

John Hancock

President



MARIETTA METAL PRODUCTS CORPORATION

540 North 63rd Street
Philadelphia 31, Pa.
GRanite 4-3076

MARIETTA, PA.

Box 66
Marietta, Pa.
Marietta 6-3951

the sale of oilheating is what I want to emphasize," he began. "The salesmen have to do a good job before there's any need for equipment installation. Therefore, there is no action without a sale."

Because of this, Hall maintained, the salesman must be trained to understand the need to emphasize sales fundamentals. It's the dealer's responsibility, moreover, "to guide salesmen to think and do things in the order of their importance. Make them plan and organize during the first hour of every day, preparing presentations for the day's contacts with prospects."

The best way to get salesman to do this, Hall said, is to have each use a tickler card file, with space for 31 days and a separate file for each month. Every prospect, no matter from what source his name is obtained or how remote the possibility of selling him might be, is to be listed. Each one gets a card, with a record made of the first call or contact. It is then filed on an appropriate come-up date and the salesman checks the day's batch of cards each morning. "Each prospect," Hall summarized, "must be recorded or he'll be forgotten. Follow-up for each prospect must be systematized, or he'll be neglected."

Thursday's program, April 21, included an all-day session devoted to commercial-industrial subjects, including a presentation on "Heavy oilburner Controls" by Carl Swanson, Minneapolis-Honeywell Regulator Co. This paper is reproduced in the Commercial-Industrial Section of this issue. Gustav Warner, Jr., Standard Oil of Indiana, concluded the morning session with a paper on "Oil as a Fuel," while in the afternoon a panel of six members spoke on specific topics for five or ten minutes and then answered questions. These were asked by members of the oilheating industry concerned with commercial-industrial installations, and also by local architects and engineers who were invited to attend.

On Thursday morning a separate session was held on "Systems and Methods" for domestic heating and cooling installations. Prof. W. S. Harris, University of Illinois, presented the story on "Liquid Heating and Cooling"; Prof. R. J. Waalkes, Michigan State University, participated in a similar presentation on "Heating and Cooling by Air."

Total registration at the three day meeting was just about 600, so that total attendance was well above the 1954 convention, also held in Chicago, when registration was about 100 less.

❖

Allied Oil plans another river Terminal in Ohio

IMMEDIATE CONSTRUCTION of an additional river terminal and storage facilities has been announced by Frank C. Colegrove, executive vice president of Allied Oil Co., a division of Ashland Oil & Refining Co., Cleveland.

With a capacity of 200,000 bbls. storage the new terminal will be located in the East Liverpool, O., area. Supplementing Allied's present system of river storage facilities, the terminal will provide a shorter, more economical haul of fueloil to industrial plants located in the Youngstown area.

1 Over 20 different firing combinations . . . with the new "Spitfire" made especially for furnace and boiler manufacturers. That's Model F-285, Nu-Way's newest. Firing range: .65 to 2.85 gallons per hour.

fit any job . . .

		MODEL
2	.65 to 1.75 gal. per hr.	IXL-175
3	1.75 to 3.0 gal. per hr.	IXL-300
4	2 to 5 gal. per hr.	XLO-500
5	3 to 8 gal. per hr.	CO-800
6	8 to 15 gal. per hr.	XL-1500
7	15 to 20 gal. per hr.	XL-2000

There's a Nu-Way Oil Burner to fit almost any job — large or small, residential or commercial. Every model is engineered with features like 0.0015 inch motor pump alignment . . . sand-cast aluminum alloy housing . . . dependable transformers, manufactured extra-heavy by Nu-Way . . . easy servicing . . . in-operation nozzle adjustment . . . adjustable floor, flange or mounting. No wonder Nu-Way burners are standard equipment on boilers and furnaces made by so many leading manufacturers! Write today for Bulletin N1132 on new oil burners.

OIL HEATING EQUIPMENT

THE *Nu-Way* CORPORATION
ROCK ISLAND, ILLINOIS

Nu-Way is a member of O.H.I. and I.B.R.

Automatic Oil Heat Exclusively Since 1921

Standard of Ohio's Formula forecasting delivery Time

In answer to a question following his address on "Dispatching" before the Connecticut Petroleum Association's recent meeting held at Yale University, New Haven, Conn., Dean Henderson, manager of Distribution and Automotive Operations, Standard Oil Company of Ohio, remarked that his organization had established a formula whereby driver hours utilized in delivery operations might be gauged over a given heating season.

Henderson's statement aroused considerable interest among the marketers, and William Briggs, Valley Oil Co., Middletown, Conn., chairman of the Association's Education Committee, later wrote Henderson asking for more details on the formula. Briggs tried out the plan, and found that in his operations the formula has proved itself with remarkable accuracy.

Consequently we are passing along this formula with the thought that other oilheating dealers might be able to adapt it successfully to their own operations.

A SIX STEP FORMULA for forecasting driver hours in fueloil delivery operations for heating seasons or longer has been devised by the Sales Department of the Standard Oil Co. of Ohio, Cleveland.

Tested on actual operations and found to be remarkably accurate, the formula, which is based on three quantities, assumes:

a. Customers served each year will tend to meet an experience "average" as to burning rates, dump size, proportion on keep fill, tankage, tank fill speed, venting, degree of delivery difficulty, etc.

b. No changes in driver productivity if new drivers are hired or experienced drivers leave.

c. No changes in truck sizes, pumping rates, ticket procedure, etc.

d. Level productivity of drivers throughout the season. If experience indicates more time allowance in rain or snow or during dark hours, the formula will require adjustment. It also will require changes if the company is operating under an incentive plan. It is suggested that adjustments may be accomplished through changing the factor of gallons per driver hour for the affected months or drivers.

e. Manning problems earlier than September and after the last month will be disregarded.

Key Factors

The three key factors or quantities in the formula are described by the letters V (for net volume), O (for gallons per driver hour), and P (degree day percentage), which are arrived at through the six steps listed below.

1. Figure out the probable average number of degree days in the territory to be served for each month during the heating season, based on the Weather Bureau's norm for the area. Adjust this average up or down as the Bureau's long range forecast for the months ahead may indicate.

2. From the coming season's customer list, calculate the total number of gallons that will be consumed per degree day during the heating season. Past experience based on the customers' K factors will be of considerable help in obtaining this number.

3. Multiply steps 1 and 2 to obtain the number of gallons that will probably be consumed by all customers during the fueloil season on a monthly basis, and then total up this gallonage to reach the figure for the entire season.

4. After deducting the total number of gallons estimated to be in the customers tanks (if this has not already been done), the remaining figure will be represented by letter V (for net volume of fueloil expected to be delivered during the season).

5. Decide upon the average number of gallons per hour your drivers are expected to deliver. This should be an average which allows for time at the plant, at the customers' location, truck servicing, lunch time if paid for, coffee stops, and other factors which may cause delay in delivery. Let this average be expressed by the letter O (for driver output per hour).

6. The final step of the formula calls for determining the percentage of degree days in each month as part of the total degree day calculation for the heating season. Carrying out this percentage to one decimal point, the result is represented by the letter P (for monthly percentage of total degree days).

After arriving at the three factors the monthly driver hours used to de-

3 NEW Exclusive "Home-Run" FEATURES PUT EMPIRE WAY AHEAD in the FURNACE CLEANER League

When machine shuts off, baseball bounces and shakes dirt and soot loose from rayon bag.

Rayon Bag, Baseball and Draw String. $3.75 extra.

DISTRIBUTORS NOTE
Several choice territories available. Write today for complete information.

NEW! NOW AVAILABLE WITH BY-PASS MOTOR AT SLIGHT EXTRA COST

1. New type motor, more powerful, better constructed, gives 70 inches water lift at hose end.
2. Extra electric outlet on top of machine for connecting drop light. No hunting for outlets and dragging lengths of wire across the cellar floor.
3. Amazing new Rayon Bag with "baseball" device. EXCLUSIVE on Empire Furnace Cleaners. Outlasts dozens of paper bags. Keeps machine at top efficiency. Available at extra cost.

Manufactured by
EMPIRE CHEMICAL PRODUCTS CO.
10 Longworth Street, Newark 2, N. J.
In Canada—KRESNO-STAMM, 506 Harbour St., Montreal 24.

Includes . . . One 10 ft. Heavy Duty Hose—One 30" Crevice Tool—One Bag Cage with Filter Bag—One Paper Filter.

NU-VAC FURNACE CLEANER Still only $99.50

liver fueloil may then be reached. The formula for this calculation is as follows:

V (net volume) divided by
O (gals. per driver hour)

times
P (DD monthly percentage)

equals
H (monthly driver hours)

or $\frac{V}{O} \times P = H$

Using a hypothetical Middle Atlantic market with a total norm of 5,436 degree days for an eight month period (September through April) and a company which has 10,000 accounts burning an average (arrived at through steps 1 through 4) of 1,500 gallons per customer during the heating season, V would equal 15,000,000 gallons. (1,500 × 10,000.) This 15,000,000 gallons will remain constant throughout the formula since it represents the total amount of fueloil to be used during the heating season.

For letter O, assume that the example company has decided that its drivers can be expected to handle 400 gallons per paid driver hour. This figure will also remain constant throughout the formula, for one of the basic premises of the plan maintains that there will be no change in the driver's productivity rate.

Letter P, representing a given month's percentage of the total degree days anticipated for the heating season, will be based on the month of January. In the example city January has 1,101 degree days, or 20.2 per cent of the heating season total of 5,436 degree days.

The formula, then, with the theoretical figures substituted for the letters is as follows:

$\frac{15{,}000{,}000}{400} \times .202 = H$ (driver hours for the month of January) H then would equal 7,575.0

Since both the 15,000,000 (or letter V) and 400 (or letter O) are constant unless driver output changes due to bad weather or incentive motives, the formula may be reduced or simplified to 37,500 × P = H (Driver Hours).

Used Monthly

To find the total driver hours for any given heating season, the foregoing formula is utilized for each month, with the hours being totaled up at the end of the eight or nine month period, depending on the length of the season in the area.

In using the formula, if, at the close of each month, the accumulative gallons actually delivered are less or more than scheduled, carry the adjustment forward to the following month in the expectation that weather deviations from the norm will correct themselves later.

Be sure to adjust for customers added or lost as soon as such changes occur, and it should be emphasized that dispatching must tie-in to the driver-hour forecast section of the formula. Deliveries to individual accounts must be scheduled so that the combined time of all deliveries, by all drivers, will match the formula. The schedule is, of course, flexible accumulatively to meet the deviations from the temperature norm.

ANOTHER NEW
Major Oil Company
Loading Rack in Action . . .

operating with OILCO
LONG-RANGE LOADER
No. 462

To meet the requirements of the industry—distributors, bulk plants and marketers—Oilco has perfected this assembly of extreme long range—a new loader which, without re-spotting, loads transports and tank cars in a jiffy. No intricate mechanism. It does its work quickly, easily and efficiently.

This Spring-Matic assembly includes No. 150 self-closing, shock-proof loading line valve, and two Model 857 swing joints equipped with TIMKEN tapered roller bearings to insure positive alignment and greater friction-free load capacities.

The above illustration shows a new, modern installation employing 24 of these new Spring-Matic loaders on two racks, performing the job for which it was intended and doing it well.

Write for Folder A-7 for complete description

OIL EQUIPMENT MANUFACTURING CO.
INCORPORATED
3100 VERMONT AVE., LOUISVILLE 11, KY.

The Only Complete Line of Fin-Tube All-Copper Tankless Water Heaters!

GENERAL...
...with "Extra-Efficiency" Finned Tubing
Fin Actually Part of Tube Wall
• Not soldered, brazed, or crimped in place
• Cannot separate or unravel
• Equals smooth tubing in strength

Here's the biggest advance in tankless water heaters since the introduction of all-copper construction! General Fittings now offers a complete line of all-copper tankless heaters made with the new integral-finned copper tubing that gives these famous heaters better heating efficiency than ever before.

Eight sizes from 4 to 25 g.p.m. supply this ultra-modern design in sizes for every job. The new finned tubing provides higher heat transfer without any sacrifice of compactness. And it's tough . . . fully equals smooth tubing in strength and corrosion-resistance.

Other outstanding features of GENERAL All-Copper Tankless Water Heaters include: rugged octagon wrench grips, easy drainage of coil and boiler water, and fiber-glass insulation. Available in 4, 6, 8, 10, 12, 16, 20 and 25 g.p.m. capacities. Write for new, illustrated folder. General Fittings Co., Box 151C, East Greenwich, Rhode Island.

GF GENERAL FITTINGS COMPANY

TANKLESS AND INDIRECT WATER HEATERS AND HEATING SPECIALTIES

Better Heating-Cooling Council to sell wet Heat

THE BETTER HEATING-COOLING COUNCIL has been formed to promote the use of hot water and steam heating systems in residential construction, according to Paul K. Addams, Fitzgibbons Boiler Co., Inc., president of the organization.

Addams said, "We propose, through a vigorous, industry-wide education and sales promotion program, to present the straight facts to consumers and professionals alike about the advantages of the many modern, economical hot water and steam heating systems on the market today."

He said that the group will demonstrate that technological progress in the wet heat field during the past few years has not only resulted in substantial cost reductions, but has added new quality features. He referred to new control and distribution systems, more compact and efficient boilers, and the addition of summer cooling to wet heating systems.

Other officers are as follows: Vice-president, Robert W. Lear, American Radiator and Standard Sanitary Corp.; Secretary-treasurer, Robert Ferry, Institute of Boiler and Radiator Manufacturers. Other members included Robert S. Rickabaugh, Convector Manufacturers Association; H. Leigh Whitelaw, Gas Appliance Manufacturers Association and Robert A. Locke, Steel Boiler Institute.

Stephen Fitzgerald & Co., New York public relations firm, is drafting a comprehensive public relations, publicity and promotion program for the Council.

❖

Maryland OHA introduces consumer credit Insurance

THE INSURANCE TRUSTEES of the Oil Heat Association of Maryland are offering dealers a unique life insurance contract to guarantee the unpaid balance of a deceased customer's budget account.

Only budget accounts can be insured. The cost to the dealer will be 75¢ per month per $1,000 of outstanding indebtedness. The Sun Life Insurance Co. of America is underwriting the life insurance.

If a customer dies, the dealer gets a copy of the transcript of death from the family. The transcript is forwarded to the insurance company and a check for the balance of the account is sent to the dealer. A corporation or partnership account cannot be insured.

The way the Consumer Credit Insurance plan is set up it is entirely possible for a dealer to get back 50% of his investment in dividends depending upon the number of claims the Association experiences.

The cost of the insurance by law cannot be passed on to the customer. Any number of accounts make a dealer eligible, but by the end of the year the law requires the dealer have at least 100. All budget accounts must be insured.

A recent survey showed that approximately 10% of the members' accounts are on a budget basis, and the members indicated that the budget is by far the most desirable type of account.

NEW LOW PRICES!
GILBARCO OFFERS NEW OPPORTUNITIES FOR DEALERS

The famous line of Gilbarco heating equipment is now available at prices that meet and *beat* competition. This new price policy is made possible by increased production facilities and a new decentralized distribution system – which will allow the appointment of new dealers. Gilbarco offers this opportunity without any reduction in dealer profit margins and with no sacrifice of its traditionally high engineering standards.

For full information regarding this opportunity use the coupon below.

SEND THIS COUPON—ACT NOW!

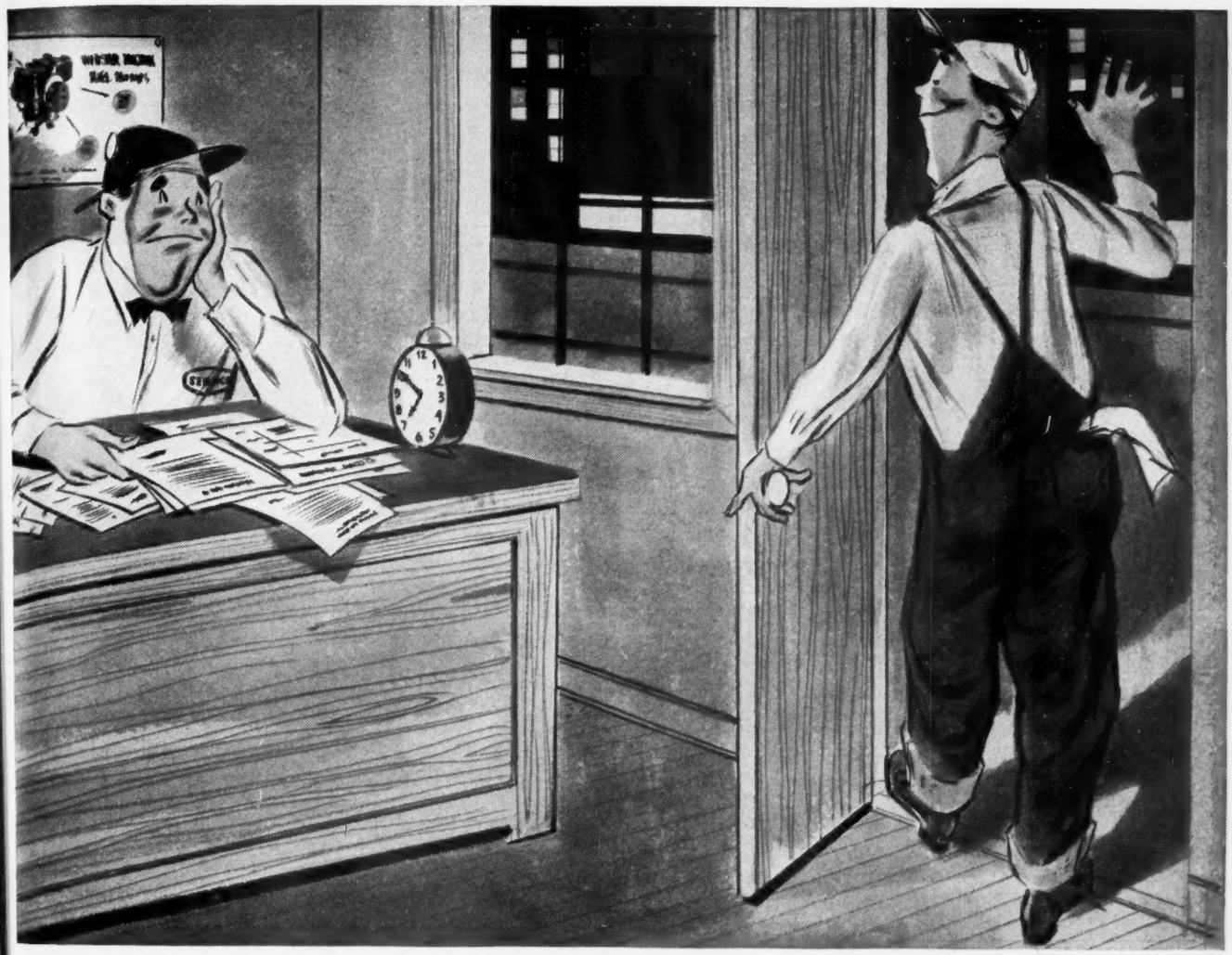
Gilbert & Barker Mfg. Company
West Springfield, Mass.

Dear Sirs: Send me all the facts today on your oil burner Dealer Plan.

Name_____

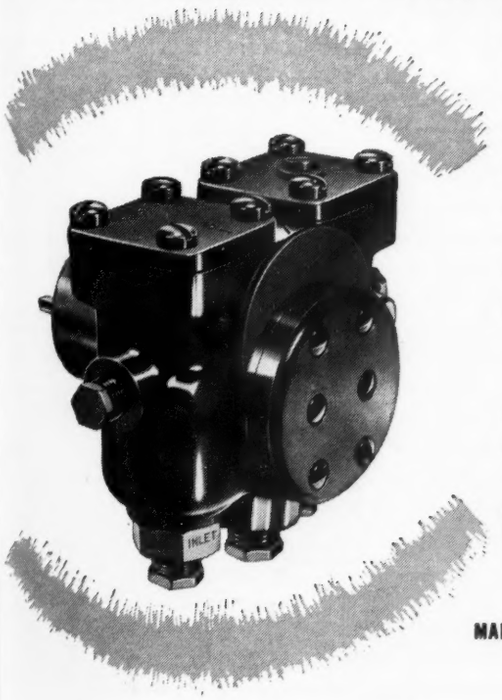
Address_____
(STREET)

City_____ **State**_____



"By working faithfully eight hours a day you may eventually get to be a boss and work twelve hours a day"

We know what you mean, Old Timer!



The oil heating business today is no picnic. Tougher competition in our industry means long hours and careful attention to all costs if a service business is to show an adequate profit.

One way to help ease the strain is to specify and use WEBSTER Fuel-units, Ignition Transformers and Delaytrols on new units and replacement installations. WEBSTER equipment is easier to install and service—saves time. And it avoids trouble later on—eliminates costly "bounce calls."

Write today *for WEBSTER Bulletin E2A2 which includes complete replacement data on nearly every Fuel-unit and Transformer made in the last 12 years*

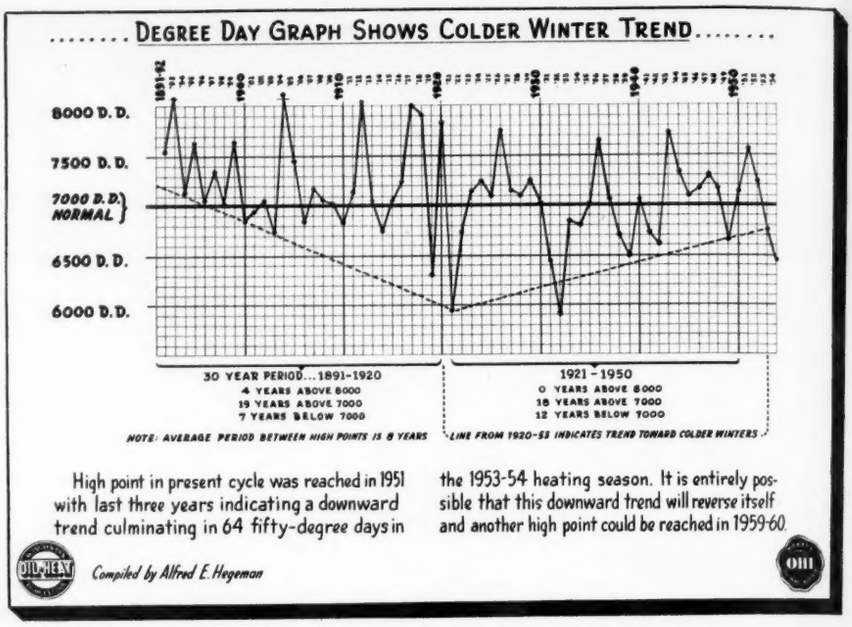
WEBSTER RACINE **ELECTRIC** WISCONSIN

MANUFACTURERS OF FUEL-UNITS, IGNITION TRANSFORMERS AND DELAYTROLS

This degree-day chart *was compiled recently by Alfred E. Hegeman, Wauwatosa Fuel & Supply Co., Wauwatosa, Wisc., to demonstrate the general temperature trend in the area along with a possible basis for projection for the coming years.*

Since 1930 most banks and finance companies engaged in the personal or industrial loan business have insured the lives of their borrowers through consumer credit life insurance. In 1954, consumers credit was sold to department stores. Its value as a merchandising tool became apparent. One store increased its budget accounts by more than $1 million in less than six months. The idea has proved popular with department stores because they value having a steady known income.

The program is being applied to the fueloil business for the first time by the Oil Heat Association of Maryland. The trustees of the plan believe that it will help dealers convert present customers to budget accounts and thereby guarantee themselves an orderly and systematic method of anticipating income through the year.


DEGREE DAY GRAPH SHOWS COLDER WINTER TREND
8000 D.D.
7500 D.D.
7000 D.D. NORMAL
6500 D.D.
6000 D.D.
30 YEAR PERIOD...1891-1920
4 YEARS ABOVE 8000
19 YEARS ABOVE 7000
7 YEARS BELOW 7000
1921-1950
0 YEARS ABOVE 8000
18 YEARS ABOVE 7000
12 YEARS BELOW 7000
NOTE: AVERAGE PERIOD BETWEEN HIGH POINTS IS 8 YEARS
LINE FROM 1920-55 INDICATES TREND TOWARD COLDER WINTERS
High point in present cycle was reached in 1951 with last three years indicating a downward trend culminating in 64 fifty-degree days in the 1953-54 heating season. It is entirely possible that this downward trend will reverse itself and another high point could be reached in 1959-60.
OIL-HEAT
Compiled by Alfred E. Hegeman
OHI

Dowden says gas Industry can't get enough Insurance

THE GAS INDUSTRY is having difficulty in obtaining adequate insurance coverage today despite the fact that fatalities and fire losses due to gas have been steadily reduced, says Alfred L. Dowden, supervising engineer of public utilities, Liberty Mutual Insurance Co.

He made this statement at the recent sales conference on industrial and commercial gas of the American Gas Association. He said that the inherently hazardous nature of gas caused this situation and that it was up to the industry itself to establish effective loss and safety programs.

NEW! IMPROVED! GENERAL FUEL OIL FILTERS

Models 1A-25A and 2A-700A Offer These New Features

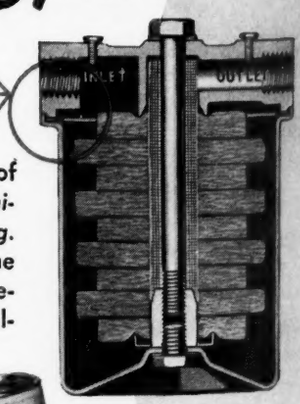
IMPROVED 1A-25A

IMPROVED 2A-700A

DELUXE 2A-300
for big dirty jobs. Depth-type, metal encased cartridge. Exclusive screw-type handle release.

1. RESTYLED SEAL IN FILTER CAP PREVENTS LEAKAGE
2. CUPPED RIM IN BOWL FOR EASIER SEALING
3. NEW BUNA GASKET COMPOUND

ABSOLUTELY LEAKPROOF



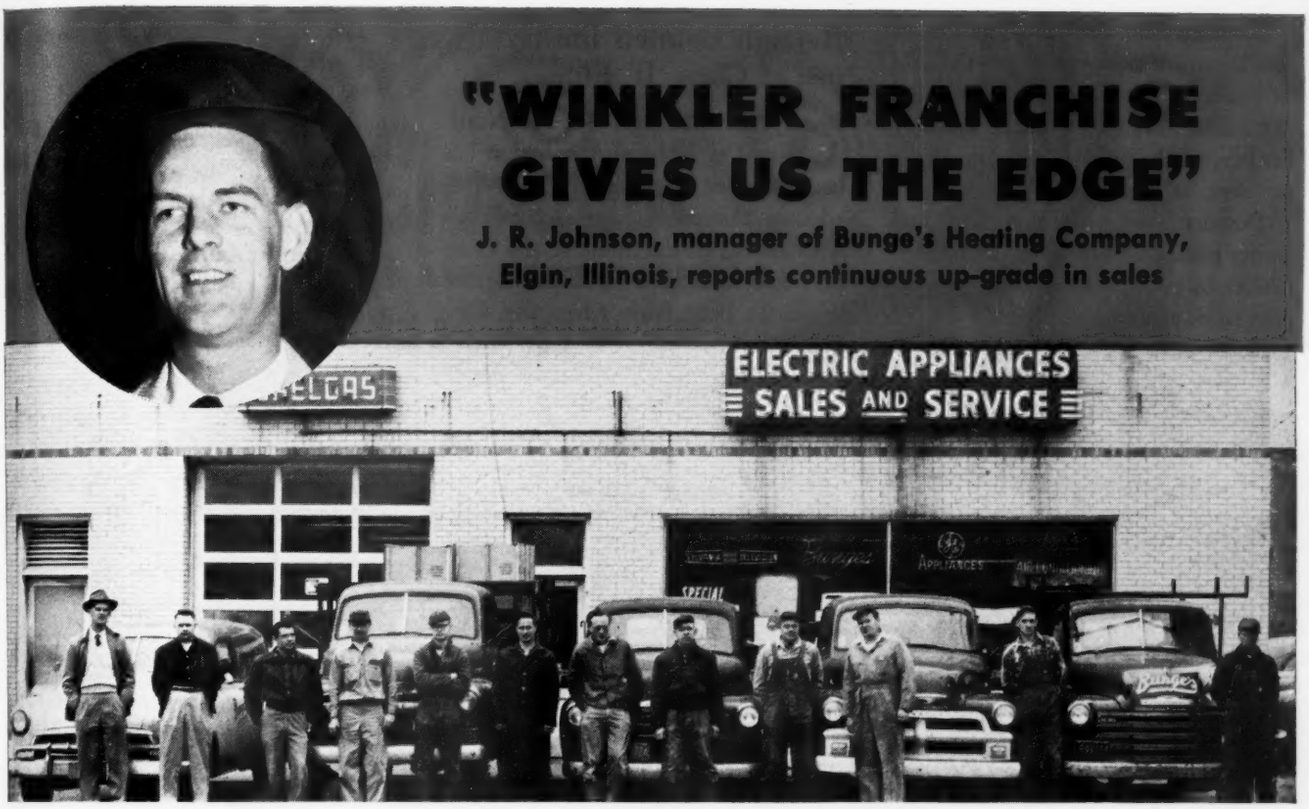
Won't Clog . . . Won't Crack

Complete restyling of the cap, seal, and gasket of General Filters 1A-25A and 2A-700A *positively eliminates any danger of leakage or improper sealing.* GENERAL'S CUPPED-RIM *all-steel* filter bowl holds the new BUNA gasket securely in place against the redesigned *cast iron* CAP SEAL . . . provides easier sealing . . . lifetime dependability!

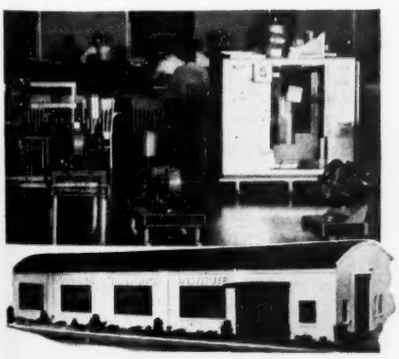
CLEAN RIGHT SOOT REMOVER removes up to ½" layer of soot from any heating plant in 2-5 minutes! Non-corrosive, non-explosive. Made specially for General Filters.

GENERAL FUEL OIL FILTERS —the ORIGINAL Filter— Are More Dependable Than Ever!

GENERAL FILTERS, INC.
43800 GRAND RIVER AVENUE • NOVI, MICHIGAN
Canadian General Filters, Ltd. • 39 Crockford Blvd. • (Scarboro) Toronto, Canada


"WINKLER FRANCHISE GIVES US THE EDGE"
J. R. Johnson, manager of Bunge's Heating Company, Elgin, Illinois, reports continuous up-grade in sales
ELECTRIC APPLIANCES
SALES AND SERVICE

Bunge's men took a breather between jobs to have this picture taken.



WINKLER TRAINING INSTITUTE FOR SALES AND SERVICE MEN

Winkler backs up its fine heating and cooling equipment with a comprehensive Training Program. In this specially designed and equipped school building, thousands of dealers and their men have received thorough training which enables them to get full benefit from the Winkler Franchise. Trainees are given individualized instruction by factory experts in successful business promotion methods and product demonstration. A *Winkler-trained salesman is a producer!*

An engineering course in sizing, installing, wiring, and servicing Winkler Products is also available.

Bunge's well planned and equipped display room permits proper demonstration of Winkler Products.

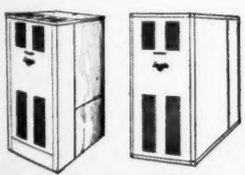
Here's the story in Mr. Johnson's own words—

"Our association with the Winkler organization began in January, 1947. Since that time our growth has been continuous, much of which we credit directly to the assistance of our Winkler Franchise.

"This Franchise enables us to better satisfy our customers, not only with the original installation but over a greater length of time than could be attained with other makes. Therefore, the use of Winkler equipment has greatly increased our number of prospects and sales.

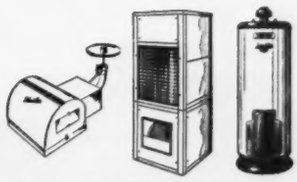
"Winkler's Training Institute has given our sales and service men the *edge over our competitors* through experience and knowledge that can't always be gained in the field."

Why not join up now with the maker of America's most complete line of home comfort equipment? Write today for full information on the Winkler Franchise.



Oil, Coal, Gas-Fired Boilers and Furnaces . . . Gas Conversion Burners . . . Oil Burners . . . Stokers . . . Air Conditioners . . . Water Heaters

WINKLER



A PRODUCT OF SW STEWART WARNER

WRITE TODAY FOR DIRECT FACTORY FRANCHISE DETAILS

STEWART-WARNER CORPORATION

U. S. MACHINE DIVISION • Dept. H-65 • LEBANON, IND.

• AUTOMATIC • WINKLER HEATING EQUIPMENT

Fueloil & oilheat

Dowden said that the problem of loss control is most pressing in the field of public liability. Accidents involving the public have effects in the industry far beyond the immediate locale of the accident, he noted.

Dowden emphasized that individual utility managements must take responsibility in safety and accident prevention work and that there is no way to delegate or ignore this responsibility. He asked the industry to invest as much effort on loss control as it has on load building, research and sales.

Raleigh Council limits use of Class 'B' Flues

SINCE THE FALL of 1954, the North Carolina Oil Jobbers' Association has been carrying on a concerted effort to educate the public and city officials with regard to the limits of the Class "B" flue, and recently this program began to bear fruit when the City Council of the City of Raleigh, N. C., voted to require one- or two-family dwellings to be equipped with flues designed to handle all fuels.

The Raleigh resolution reads as follows:

"WHEREAS, the Council finds that the construction of chimneys, flues and vents, unless reasonably regulated as herein provided, will endanger the public safety;

Now, therefore, be it ordained by the city council of the City of Raleigh:

Section 1. That every one-and two-family dwelling constructed from and after the effective date of this ordinance within the City of Raleigh or within one mile in all directions from its City Limits shall contain a masonry chimney or a prefabricated flue (if such prefabricated flue is approved by the Underwriters Laboratories, Inc.), designed for the use of any type of fuel, and all such chimneys and flues shall be built from the ground. The minimum free area of the chimney or flue shall be the equivalent of a 7½-inch square or a 7-inch round flue, provided that nothing herein shall prevent, *in addition* to such chimney or flue, the use of Type B gas vents if the same are constructed and used in conformity with the provisions of the North Carolina Building Code. The use of any other type chimney, flue or vent, is prohibited.

Section 2. This ordinance shall apply to only those one- and two-family dwellings using combustible fuels to produce heat for such dwellings."

❖

Long Island School plans fall heating short Course

NIGHT COURSES covering all types of residential heating equipment, types of systems, methods of operation, testing and servicing of high pressure burners and controls have been held and a new weekly course will start next October at the Long Island Agricultural and Technical Institute, Farmingdale, N. Y.

In addition to the fall semester, which will run for twelve consecutive weeks with one three-hour session each week, a spring semester will begin late in January.

A theory course for designers and estimators will cover heat losses, system layout, equipment sizes, piping

"Since 1937"

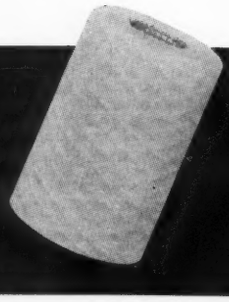
QUALITY COUNTS

Every year there are many, many more FULFLO FILTERS than any other make installed on the Oil Burners of America.

Their Superior Quality puts them there and this same quality plus Superior Performance keeps them there . . . year after year.

Fulflo Quality makes more profit for more dealers than any other Filter.

Get your share of this profit



STOP COSTLY SERVICE CALLS WITH FULFLO FILTERS

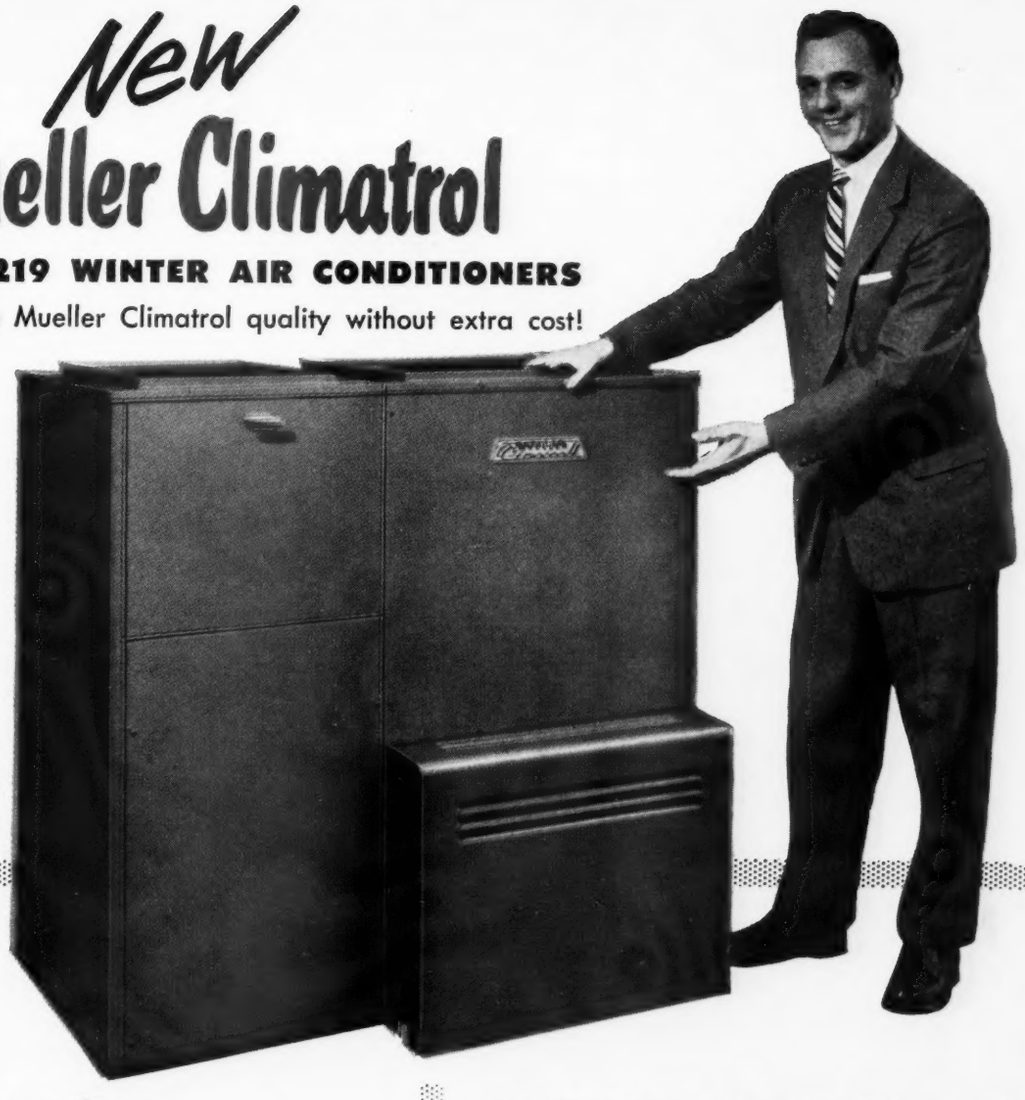
COMMERCIAL FILTERS CORPORATION

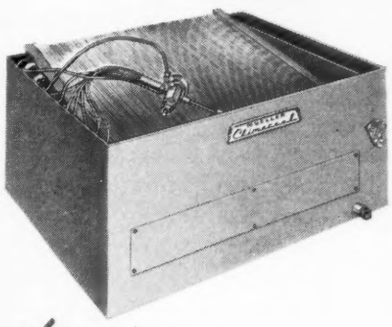
MELROSE, MASSACHUSETTS

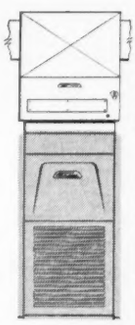
New Mueller Climatrol

TYPE 119-219 WINTER AIR CONDITIONERS

Let you include Mueller Climatrol quality without extra cost!







New **— Flexible, low-cost cooling takes no floor space —Type 912 Coil Unit**

This new Type 912 coil unit is available in 2- and 3-ton sizes for installation horizontally in the plenum of any highboy or lowboy unit having sufficient fan capacity. It is used with Mueller Climatrol Types 902 water-cooled or 908 air-cooled remote condensing units. Available less coils — gives you low cost provision for adding cooling later. Write for detailed specifications and data.

D-185

Additions to Mueller Climatrol's *Suburbanaire Line*

Here are two more *salesmakers* in the new Mueller Climatrol Suburbanaire line. They're priced to let you meet competition on project homes, yet they maintain Mueller Climatrol quality throughout—in appearance and construction. Just check these features:

★ **Compact, attractive** — only 45¾" high; 45¾" wide; 26¼" deep plus rear diverter and gas or oil burner vestibule.

★ **Sized right** — 100,000 Btu input on gas; 110,000 Btu on oil. Has large blower to insure required capacity with slower, quieter blower operation.

★ **Easily installed**—shipped in two easy-to-handle sections for quick assembly on the job.

★ **Adaptable for Cooling** — at low cost. See the new Type 912 coil unit (at left) which makes it simple to include cooling without extra floor space.

It will pay you to get the complete specs on these new Suburbanaire lowboys. Check them out, feature by feature — including price. They can't be matched. Write for complete information — today.

Mueller Climatrol

98th Anniversary

Dept. 165, 2050 W. Oklahoma Ave., Milwaukee, Wis.

and duct capacity. The other two courses are primarily for service personnel—either in the field or interested in entering the industry.

The first, more elementary course, covers construction and operation of modern residential heating equipment, high pressure oilburners and controls. Considerable time will be devoted to combustion of fuels.

Heating Equipment II, the second service course, is more advanced, and members must have satisfactorily completed the elementary course. It will cover the less familiar types of oilburners: low pressure, rotary, vaporizing burners and their controls.

Instruction on a practical level will be furnished by men actively engaged in the heating industry. Guest speakers and specialists in particular branches of the industry will be asked to address the groups, speaking from a practical or industrial viewpoint. The design angle will not be stressed.

O. W. Dobson and Walter MacPherson, both of the O. W. Dobson Co., Queens Village, N. Y., have been conducting classes and will continue when the new courses start. Horace Clapp is head of the school's heating division. W. W. Rodgers is head of the Department of Mechnical Technology.

The cost of the short courses for 12 three-hour sessions is $23. Registration dates and further details can be gotten from the Evening School Office, Long Island Agricultural and Technical Institute, 520 Conklin St., Farmingdale, N. Y.

❖

Competition insures sane Prices says R. I. Inquiry

FUELOIL PRICES in Rhode Island were investigated recently by a committee made up of representatives from the state legislature. It was the conclusion of the group that because the retailing of fueloil was on an intensive competitive basis reasonable price levels will be maintained.

The representatives established that the factors that principally determine the price of fueloil originate almost entirely outside the boundaries of Rhode Island.

The State House of Representatives had created a five member bipartisan special committee which probed fueloil prices at both the wholesale and retail levels. Industry witnesses appeared representing the majors, wholesalers and retailers.

The investigation of prices at the retail level found that there was a modest mark-up by the retailer, but he, working on this margin, bears all the cost of handling the product in delivering to the homes of his customers.

A study of prices showed 25 changes at the retail level since 1948, but the retail price has been increased by only 1.5¢ per gallon. "These increases, percentagewise, are far less than for most other commodities during the same period, and to some extent reflect the increased cost of doing business generally," stated the committee's report.

In general the committee concluded that fueloil prices followed the usual pattern of seasonal business in that they were lowered during the spring and summer months when demand was low and increased during the winter months.

You make a *warm friend* when you switch to Sinclair SuperFlame® Fuel Oil – a friend to help you win *many more* friends . . . by building customer good will.

Sinclair SuperFlame builds good will because it offers anti-rust protection at no extra cost. SuperFlame contains Sinclair's exclusive rust inhibitor, RD-119®. Used regularly, this top-quality fuel oil protects against rust-clogged filters and burner nozzles. Result:–fewer service calls and *greater customer satisfaction.*

To build good will – and *boost profits,* switch to Sinclair SuperFlame Fuel Oil *today.* Write Sinclair Refining Co., 600 5th Ave., N. Y. 20, N. Y.

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FUEL OIL with RD-119®
SO DIFFERENT – IT'S PATENTED

ANTI-RUST Super Flame ®

Your Customers Are FILTER-CONSCIOUS

MICRO-PHOTO OF BOWSER FILTER CARTRIDGE MATERIAL

NOW, MORE THAN EVER, customers hear about filtering . . . cigarettes, beer, air and FUEL OIL. More and more oil dealers are selling more by advertising FILTERED FUEL OIL. If you want to boost your gallonage GET THE FACTS NOW!

BOWSER FUEL OIL FILTERS

ESTABLISHED 1885

Protect your interests and your customers' by eliminating dirt, water and tank scale from your fuel oil. Eliminate costly service calls and equipment repairs, and tell your customers!

FILTER YOUR PRODUCT AND YOU WILL SELL MORE OIL

Replaceable, low-cost cartridges remove sludge and dirt from millions of gallons of fuel. The cost per gallon is practically nil. Except for ticket-printing Bowser Xacto Meters, no other equipment can help you sell MORE at lower cost!

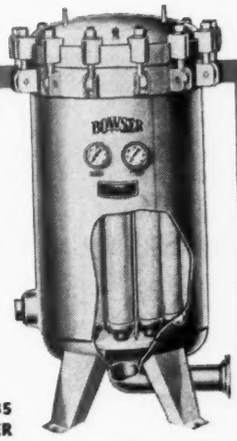

FIG. 835
BULK PLANT FILTER

Bulk plant (left) and truck type (right) Bowser Filters are available in several sizes. Either type will provide the sales tool you need. Both operate very effectively. Get complete data now and be ready for summer sales promotion!

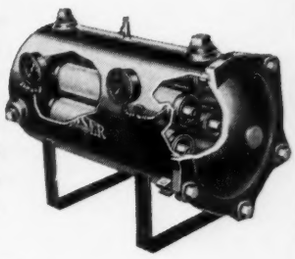

FIG. 837
TANK TRUCK FILTER

- **GETS NEW BUSINESS**
- **BUILDS GOOD WILL**
- **CUTS COMPLAINTS**
- **REDUCES SERVICE COSTS**

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This Stuffer Helps You Sell

This DIRECT MAIL or HANDOUT stuffer tells the story to your customers and prospects. Available to Bowser Filter owners only.

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BOWSER, INC.

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Readers' Problems

Q. *Will you ask friend Schulz to tell me how to install the Pate water-flow switch, which we very much like to use, so that those who turn hot-water taps on and off rapidly and frequently to wash this, that, and the other dish, etc. will not blow up the boiler.*

This refers, of course, to Schulz' article on the Pate unique control set-up, which starts on p. 64 of the April issue of FUELOIL & OIL HEAT.

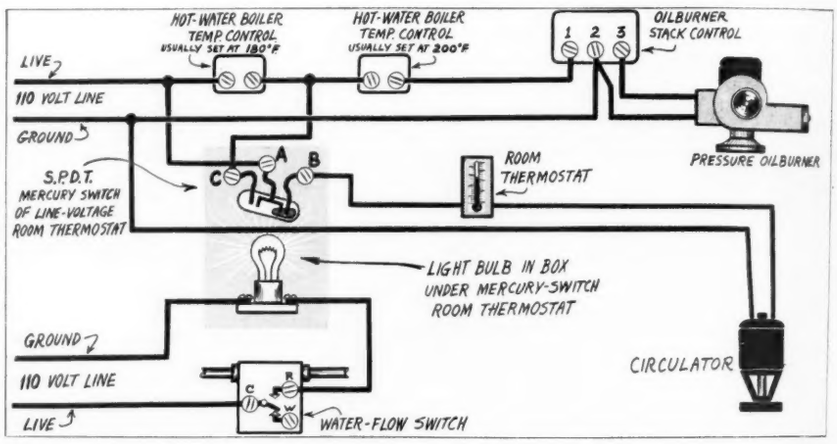
Walker Pate is a good friend of mine and I was one of the first to have one of his water-flow switches. I own an apartment house and live on the ground floor. The tattoo of on and off water taps that goes on continuously after each meal is just too frightening to me without some method for delaying the burner reaction—some method that will not defeat the purpose of the water-flow switch. We have given this a lot of thought, but have not yet found a solution.

Wayne, Pa.

A. Yes many oilheating experts agree with you, the idea of starting the burner in your own home every time you open a hot-water faucet can make you shy about drawing hot water.

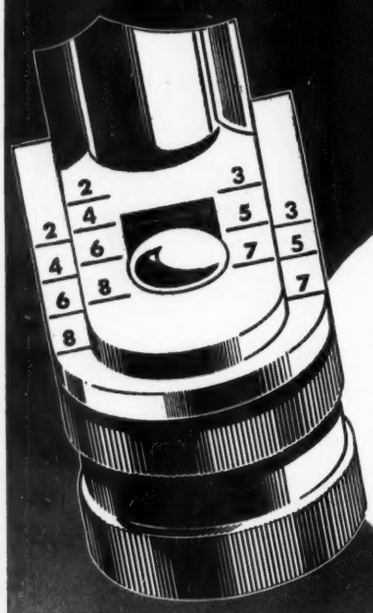
Most apartment-house jobs do not need this instant-acting control set-up to insure satisfactory hot water, for their relatively large boilers perform well (in providing hot water) when equipped with modern rapid-acting boiler temperature controls.

Satisfactory results can be insured on practically every job by installing



HERE'S THE WEIGHT That LIGHTENS Your Work

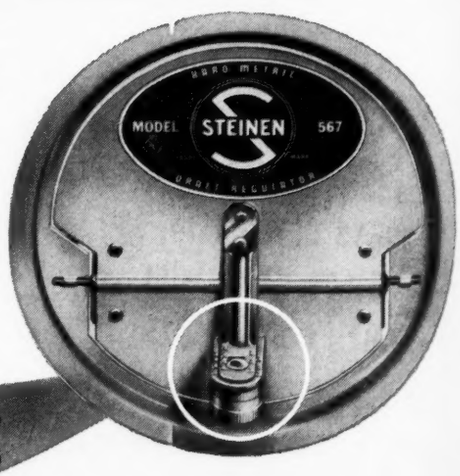
—adjustments made within seconds.



Weight adjustments are calibrated clearly and accurately for quick and easy setting.

To set for any draft, loosen front knurled weight 1 to 2 turns and tighten after matching two lines of desired setting. Rear weight moves with front weight so that true balance is always maintained.

The same method applies for either horizontal or vertical installation. It is not necessary to interchange ANY parts on the Steinen Draft Regulator.



STEINEN DRAFT REGULATORS ARE NOW AVAILABLE IN ALL POPULAR SIZES

ESTABLISHED 1907 — STEINEN — TRADE MARK

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MANUFACTURERS OF ACCESSORIES FOR OIL HEATING AND AIR CONDITIONING

More features to talk about, of course, but it's the dealer policy that makes

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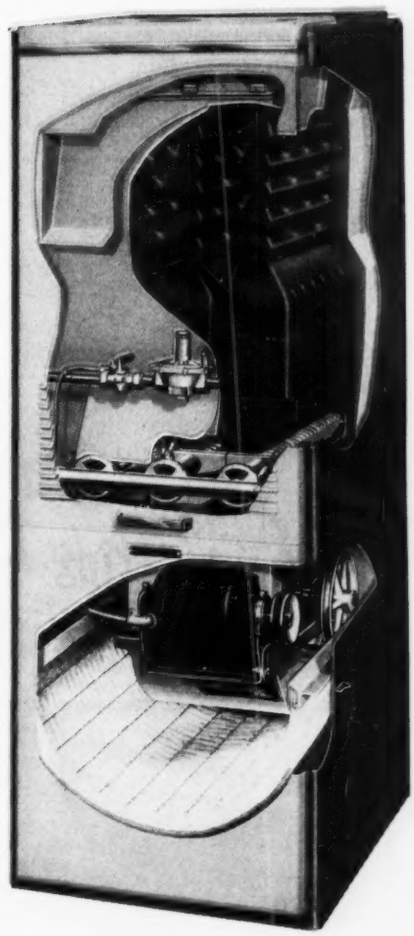
Point-for-point . . . Lennox gives you more selling features. Steel heat exchangers with "silent seal" cabinet anchoring; whisper-quiet, floating blowers; exclusive hammock filters; Mellow-Warmth controls; beautiful, baked enamel cabinets are just a few of the reasons it pays to sell the No. 1 line. This dealer policy helps make YOUR name No. 1 locally:

- **Finest, most complete sales and service training program . . . teaches your men the latest techniques to increase your sales volume.**
- **Proven new-business development ideas . . . real, two-fisted selling tools . . . to get extra heating and air conditioning sales.**
- **Special tailor-made promotion kit to help *your* builders sell their houses (a Lennox exclusive).**
- **Nationwide branch office engineering service — heating and air conditioning technicians at your disposal — anywhere, anytime.**
- **Largest consistent advertising program . . . tells your prospects about your products and services.**
- **The finest products in the industry . . . the most complete line to sell.**
- **A product warranty that *assures* customer satisfaction.**

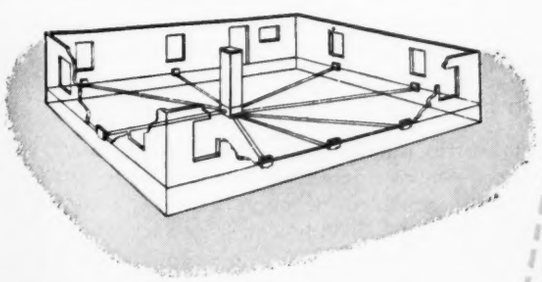


IN WARM AIR HEATING, MORE FAMILIES BUY LENNOX THAN ANY OTHER MAKE

Over 100 models, gas, oil, coal . . . Air conditioning, too!

Perima-flo® ANOTHER PROFIT OPPORTUNITY

Here's draft-free perimeter heating . . . perfected! A real sales story to tell . . . for extra profit.



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All right — send me information on how the Lennox Dealer Policy can help me make more money. No obligation on my part.

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MY NAME_____

fueloil & oilheat

a fast-acting, sensitive temperature control—locate the control's heat-sensitive element directly below the part of the tankless heater coil which chills most rapidly when hot water is drawn, under the input end of the tankless heater coil where feasible.

However, you say you very much like to use the water-flow switch. In that case, you can consider taking either or both of two steps to curb its sensitivity without, as you say, defeating its purpose.

First, consider simply installing a hand valve in parallel with the water-flow switch on this apartment-house job. This hand valve acts as a by-pass valve. On this job, there's no need to start up the burner every time any of the many occupants opens a hot-water faucet, or any time water flows through the tankless coil at a rate higher than one gallon-per-minute.

Adjust the hand valve, the by-pass valve, so that the water-flow switch will trip and start the burner only as the result of a heavy draw of hot water. You can adjust so that the switch trips for only hot-water loads above three, or perhaps even up to five, gallons-per-minute. You can adjust so that the switch will trip only as the result of two or three hot-water faucets being open wide. That will end your being annoyed by the burner's starting every time anyone draws a quart or two of hot water for washing hands, pans, etc.

Second, consider using this idea (covered by the accompanying wiring diagram) if you are determined to use the water-flow switch on this apartment-house job, and if you don't mind going to considerable trouble in an effort to try to obtain nearly perfect operation on just this one job. The second idea is suggested only for the consideration of a perfectionist who wants to put much effort into one studied installation—who will make efforts for the sake of academic interest. This idea is not for use on everyday installations, made to produce profits for burner dealers.

In the drawing, the water-flow switch connects terminals "C" and "W" because hot water is not being drawn at a rate in excess of one gallon-per-minute. When hot water is drawn at a rate higher than this, the water-flow switch trips as the result, and "C" then connects to "R" turning on the light bulb.

This bulb, of the proper wattage size for the desired timing, is located in a box and under a single-pole double-throw room thermostat, also in the box of course. The drawing suggests the use of a mercury-tube room thermostat. The thermostat is line-voltage type, as the wiring indicates.

With the light bulb off and the thermostat therefore cool, thermostat terminal "A" connects to "B." If the light bulb is on for 15 seconds as the result of someone's drawing hot water at a high rate that long, the mercury-switch in the thermostat flips so that "A" connects to "C" instead of "B." The flipping of the thermostat mercury-tube, as the result of the thermostat's finally being affected by heat from the light bulb, opens the circuit to the circulator and starts the burner by switching burner control from the 180°F. boiler temperature control to the 200°F. boiler temperature control.

The Brightest Star in the Heating Industry Today!

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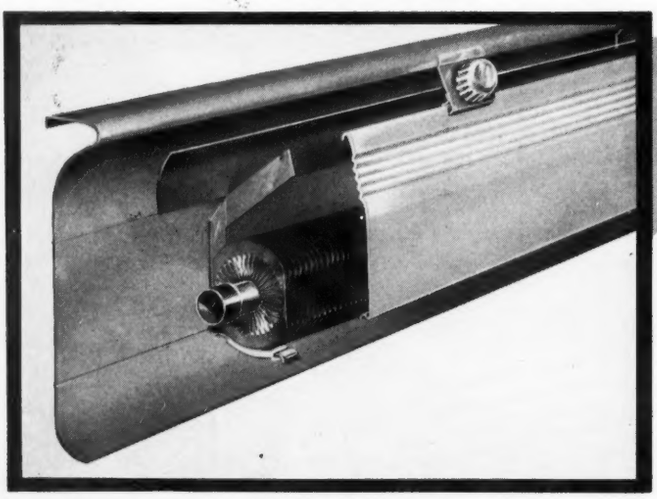

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Spi-Rol-Fin performs a complete heating service . . . Perimeter heating to blanket cold outside walls . . . Convection heating to insure even distribution of gentle warmth . . . Radiant heating at "ankle-level" where the children play.

Low silhouette, wall hugging design means more usable floor space—more decorating freedom. The smart modern "look", achieved through smooth contours and "simplicity of line," blends with any decorative scheme. Truly modern heating quality and economy — to buy — to install — to operate.

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FAMOUS QUALITY TOKHEIM METER

with new foolproof strainer and air separator!

now available for tank trucks!
0000
GALLONS
Air separator with built-in strainer—eliminates all air from liquid!
Tokheim positive piston displacement-type measuring unit.

This new Model 634 Meter features the same accurate, dependable metering mechanism as used in Tokheim service station pumps. It is designed especially for tank trucks, bulk plants and industry —and brings to their metering operations a degree of efficiency never before available. Unsurpassed in quality and workmanship. Readily adaptable to many types of installations. Handles wide range of petroleum products. For more efficient metering, make sure it's a Tokheim. *Write factory today for complete descriptive literature and prices.*

Standout Features

- ★ **Adaptable—separator inlet and strainer are reversible; counter may be rotated to desired angle.**
- ★ **Veeder-Root Register and Totalizer; Ticket Printer, optional.**
- ★ **40 G.P.M. capacity—standard 1½" flanged inlet and outlet connections.**
- ★ **Simple, readily accessible adjustment.**
- ★ **Air separator with dual valving and hydraulic air release—handles both small and large bursts.**
- ★ **Built-in strainer with 30 and 80 mesh screens, used together or independently.**
- ★ **Back-pressure valve, optional.**

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QUALITY TOKHEIM GASOLINE PUMPS AND ACCESSORIES

Because the control layout shown in the drawing is not corrected for varying ambient temperatures, set the thermostat to flip its switch at about 90°F. if you locate the box where the ambient temperature usually is, say, 65°F. to 75°F. In one sense the control set-up in the drawing is a contraption. In another sense, it includes a low-cost or no-cost (use an old, discarded, unsightly room thermostat in it) time-delay arrangement which can be arranged to be 100% practical by any of the thousands of ingenious servicemen-inventors who work at oil-burners today.

Instead of having the thermostat in the box trip its switch as the result of the light bulb's being on for 15 seconds, as has been described, if you prefer you can change this time-delay to five seconds, one minute, or anything in-between.

Instead of making up your own low-cost or no-cost time-delay device, you can buy an inexpensive and shipshape time-delay arrangement—use an Amperite time-delay tube, for example. That gains important advantages; for one thing, it eliminates the possibility of burning out of the light bulb in the box in the drawing.

The control action using this time-delay arrangement is identical to that described in the article on Walker Pate's idea of using a water-flow switch with the big exception that you have to draw hot water for more than, say, 15 seconds before (a) the circulator circuit opens and (b) the burner is started. But this arrangement retains the big advantage of control response in a positive number of seconds, instead of an uncertain number of minutes—and perhaps too great a number of minutes.

Q. I read with great interest your article on domestic hot-water, p. 64, April issue. Walker M. Pate certainly has a smart idea on how to overcome this headache of small forced-hot-water systems.

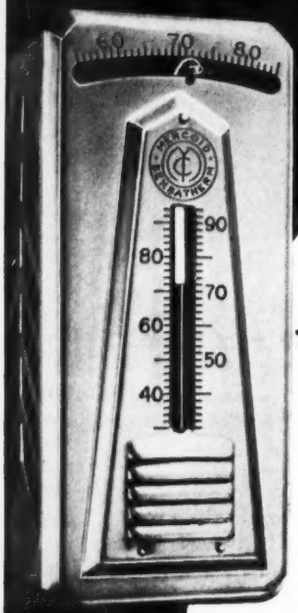
However, I do not like the idea of starting and stopping the burner as described. In as much as the burner has to start eventually whenever the circulator runs, I always hook up my burners to start simultaneously with the circulators.

Following this line of reasoning, I would use the water-flow switch only to stop the circulator.

Very inefficient combustion would be the result of starting and stopping the oilburner every time a hot-water faucet is opened and closed. In my own home for example, dozens of times a day a hot-water faucet is opened for a few seconds to wash off hands or fill a small pan or lavoratory sink, etc. Drawing such a small amount of hot water does not warrant starting the oilburner. But stopping the circulator presents hardly any disadvantage—compared to starting the burner many times a day for no good reason.

There was another control idea, which never became popular, based on locating a reverse-acting temperature control in the output or hot-water line of the tankless heater. An immmersion control was installed in an oversize tee. This, too, covered the idea of stopping the circulator as the result of cooling-off of hot water on its way to the faucets, which is after

Will the thermostat you specify provide safe, dependable operation today, tomorrow or a year from now?



BE SURE! specify the Mercoid Sensatherm—the Sensatherm is always dependable. The use of a hermetically sealed magnetic mercury switch eliminates the need of service calls as dust, dirt, grease or corrosion cannot contaminate the contacting elements. There are no contacts to weld or stick.

BE SURE! eliminate the need of call backs—the Sensatherm is engineered to operate without internal heaters—no adjusting required for each particular job.

BE SURE! don't guess—one standard Type H Mercoid Sensatherm will operate all basic primary controls and practically all domestic gas valves operating from transformer or thermocouple current.

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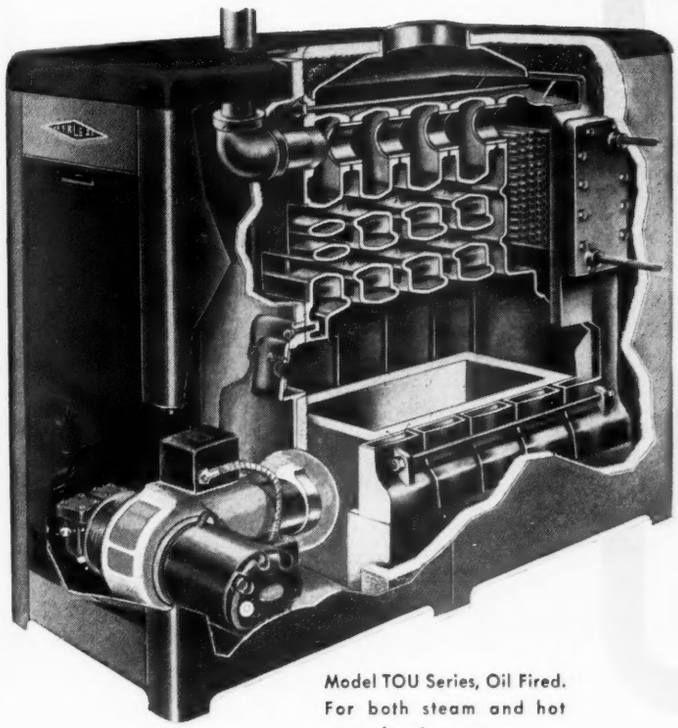

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- *Peerless Boilers are made of CAST IRON, designed and built to last a lifetime.*
- *Strain relieving spaced sections, that eliminate iron-to-iron corrosion strains.*
- *Built-in copper tube water heater for domestic hot water the year 'round. (Optional)*
- *Special Peerless cast iron water tube construction, offset to provide maximum efficiency from the hot gasses.*
- *Cast Iron section block, factory assembled and tested, for quick profitable installations.*
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- *73 sizes for water, 70 sizes for steam.*
- *A.S.M.E. Constructed. Approved by I.B.R.*

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Division of Eastern Foundry Co.

BOYERTOWN, PENNSYLVANIA

PEERLESS SINCE 1908

fueloil & oilheat

all the big point in which we are interested.

Quincy, Mass.

A. The reply and drawing which appear in this department, answering the letter from Wayne, Pa., will interest you.

You have an excellent point in emphasizing that starting and stopping a burner needlessly, and causing it to run for a few seconds at a time, is definitely detrimental to combustion efficiencies. In many of his articles in FUELOIL & OIL HEAT, J. W. Schulz (who wrote the article on Walker Pate's water-flow switch idea) has pointed out emphatically that he aims to gain maximum feasible combustion efficiencies through (1) having burners run many, not few, minutes at a time—avoiding "on" periods shorter than produce advantages on each particular installation, and (2) having burners run a total of many, not few, hours on coldest days—by dint of using the lowest gph firing rates that are feasible and that heat the homes properly on coldest mornings.

If you are sufficiently perfectionist as to desire to cut out some extra work for yourself, which probably will produce only self-satisfaction as your reward, you may want to rig up the time-delay arrangement laid out by J. W. Schulz for the letter above.

One advantage of this was not covered in the original description of it: After the room thermostat in the "hot-box" is tripped by heat from the light bulb, there's another time-delay . . . the room thermostat remains in its warm position for a few seconds, or for a considerable number of seconds if you arrange things for this, after the light bulb goes out. You can govern this return-to-cool-position time-lag by altering variables. Add mass to the box interior, for example, and provide for greater or lesser box ventilation using larger or smaller ventilating holes at the bottom and top of the box.

To you as a perfectionist, this time-lag, following the light bulb's going out, can be important. Control this lag properly, and you can build into the control system a minimum oilburner "on" period following starting of the burner because hot water has been drawn.

Q. I am confused by the assertion that with the CO_2 the same, say 9%, the efficiency of a given furnace is greater if the flame is considerably hotter. If that's true, what's the use of reading CO_2?

Chicago

A. It is true, but you should not get upset over it and throw away your combustion testing instruments.

A flame that's vastly hotter will give vastly increased amounts of radiant heat to the direct heating surfaces of the furnace, increasing tremendously the flow of heat through these highly important surfaces; that's because radiant heat increases as the fourth power of the absolute temperature of the flame.

Also, with the flame vastly hotter, the products of combustion leaving the firebox are vastly hotter, and the flow of heat through the indirect heating surfaces is increased greatly.

When you work the direct and indirect heating surfaces much harder using a hotter flame, you increase the

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GREATER PROFITS . . not an empty statement, but a fact proven by an independent survey organization after interviewing a representative group of Oil Burner Dealers in 2 different cities.

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- **ADVERTISING ASSISTANCE** . . Prepared mailing pieces, newspaper mats, point of purchase displays, etc. are supplied to REXOIL dealers FREE. You pocket this saving, too!

JOBBER AND DEALER INQUIRIES INVITED!
• Conclusions resulting from independent survey of oil burner dealers.

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rate of heat transmission through these surfaces. A hotter flame of a given gph rate causes a given furnace to impart more heat to the air circulating through it. But the stack temperature of the furnace is lower because the flame is hotter.

Thus you face a paradox: The hotter the flame, the cooler the smokepipe. What's gained by an increase in flame temperature thus is reported by your stack thermometer.

Q. Starting and stopping pulsation is the cause of great trouble in the case of this small furnace-burner unit I installed for one of my best fueloil customers. After writing many lengthy letters, telegraphing, and telephoning, I succeeded in having the job inspected by both the engineer who designed the furnace and the engineer who designed the oilburner. Though sincere and diligent, they worked all day without lessening the vibration one bit.

They agree a port of several square inches must be left open in the firing door to minimize vibration (and there's plenty of starting and stopping pulsation with this port open), but on each start-up loads of soot and smoke pour through this port with the result that the doghouse, in which burner is located, becomes full of soot in two weeks.

I can't afford to lose this big fueloil account, controlled by the owner of this vibrating furnace. Can you think of anything I could do to end the vibration and soot?

Bethlehem, Pa.

A. Poor chimney draft is involved, to judge from the outpour of soot and smoke through the port when the burner starts.

These three steps ended such trouble on a furnace-burner job like yours:

1. A draft inducer or induced-draft blower was installed to end low-draft trouble, which had been diagnosed through use of a draft gage.

2. Because smoke instrument and CO_2 tests proved the combustion was intolerably poor using the combustion chamber that came with the furnace, a new combustion chamber of splendid design and construction was installed. Readings of 12½% CO_2 and No. 2 smoke Shell-Bacharach scale could then be obtained, but to play safe the burner was adjusted for only 10½% CO_2.

3. For quieter starting and stopping together with cleaner combustion on starting and stopping, a delayed-opening oil valve was installed in the nozzle line of the burner.

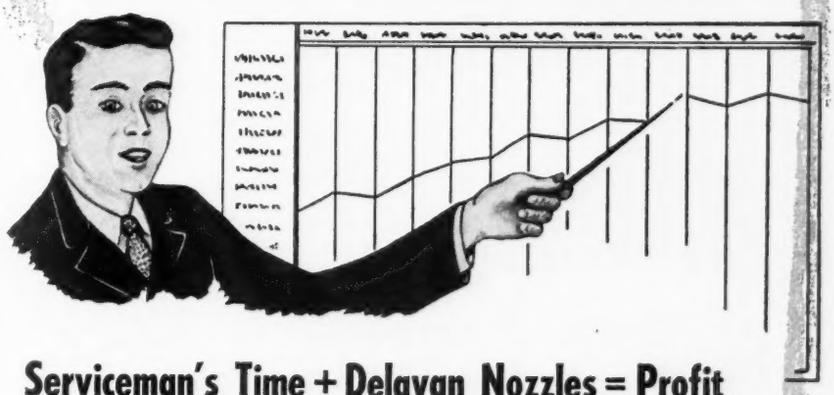
This furnace also had a "relief port" in its flame observation door. The port was left open in this instance, because closing it brought on traces of flame pulsation. But thanks to the draft inducer and the delayed-oil feature given by the solenoid valve, no smoke and soot came from the port after the above three improvements were made to the job.

Cost of making the improvements, the dealer who made them reports, came to about $150.

Q. You have told me that the hotter a flame of a given gph rate, the more heat is transferred to a given furnace fired by the flame, and the higher the efficiency; the efficiency gain of the hotter flame showing up as reduction in stack temperature. All I need to

Mr. Service Manager...

HOW EXPENSIVE ARE THE NOZZLES YOU'RE USING?



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Because . . . Delavan Nozzles deliver 99 plus good fires out of every 100 installed!

Suppose your serviceman has to try two or three nozzles to get a good fire. The cost of his time more than eats up your profit even if the nozzle were *given* to you *free*. Don't gamble with your service profits. Next time you buy nozzles insist on Delavan.

WRITE FOR CATALOG 148B

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GRAND AVENUE AND FOURTH STREET
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know now is how to arrive at the exceptionally hot flame.

Chicago

A. We gather you install gun-type burners. First, install only burners equipped with excellent firing heads. Such heads provide flames which are compact, which mix proper amounts of air with proper amounts of atomized fueloil at proper locations in combustion chambers, and which have much "character"—determination to hold their proper shapes. Poorly designed firing heads, which give flames of wavering, uncertain shapes, cannot produce exceptionally hot flames.

Second, learn all you can about fireboxes and the different materials used in building them. Design fireboxes to be as small as possible without impingement of atomized oil on their floors and walls. Consider making special efforts to match the firebox shapes to the shapes of the flames of the particular burners you install. Use firebox material that comes to exceptionally high temperatures within a few minutes after the burners start.

Third, where this is feasible engineer your installations so that their oilburners will run many, not few, hours on typical winter days. Prolonged operation on an extremely cold morning, for example, has the effect of achieving higher flame temperature. Avoid oilburner "on" periods unnecessarily short, for just as your automobile engine does not heat up during short runs, oilburner fireboxes do not heat up during runs which are unnecessarily short.

In general, sloppily designed oilburners firing sloppily built fireboxes give cool flames together with smoke and soot—and inability to produce high CO_2 readings together with low smoke-instrument readings.

The best gun-type burners firing exceptionally well-designed fireboxes give the especially high flame temperature you desire.

Q. Every year a few fuel units come back to my shop damaged because servicemen set them up for two-line (return line) operation on one-line jobs, plugged the return-line ports, and tried to start up the new burners. As this would be simple to do, why don't all manufacturers of fuel units build relief valves into them to prevent such damage? Simple, little relief devices to permit oil to flow through at about 175 lbs. pressure would do the trick and end all such damaging of fuel units.

Montreal, P. Q., Canada

A. Put your question to the manufacturer of your favorite fuel unit. The reply probably will be that most dealers find it easy to instruct their servicemen on proper setting up of fuel units, which avoids damaging them. Actually on a nationwide basis comparatively few fuel units are damaged this way. The cost of providing the relief-valve protection for every fuel unit would be far greater than the cost of undoing the damage to the few fuel units which are started up improperly.

❖

Bernie Dalrymple has been promoted from assistant sales manager to sales manager of the Detroit Division of the Amco Corp., Chicago, Ill. Amco is a distributor of bulk plant, truck tank, and service station equipment.

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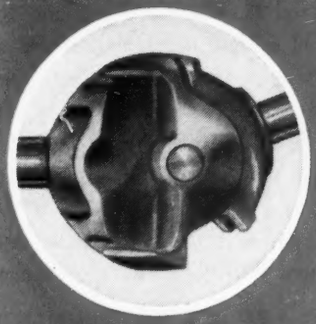
Granco
ROTARY POSITIVE DISPLACEMENT PUMPS



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- **Special Models are available constructed of Bronze with Stainless Steel Fittings — or — Cast Iron with Iron Fittings.**
- **Custom-Built pumps manufactured to fulfill your specifications.**

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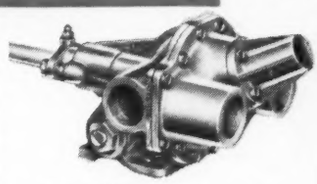
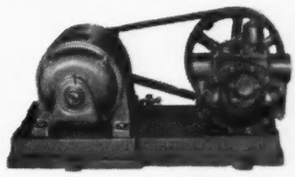
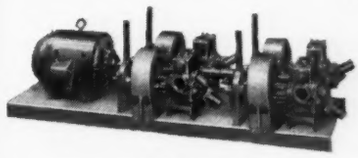


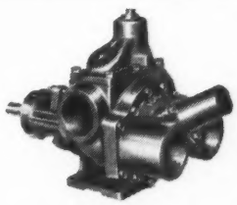
Model DDN 1½" Pump designed especially for the small truck operator.



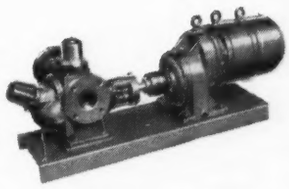
Granco Pumps with V-Belt Reduction.



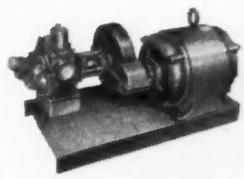
Granco Multiple Pump Units.



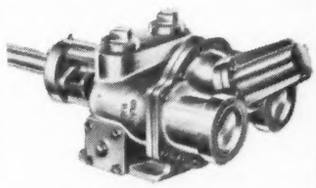
Models DD 1½", DEE 2", and EE 2". Heavy duty truck pumps.



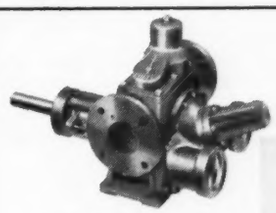
Granco Pumps with Gear-In-Head Reduction. Motor, Q Drive.



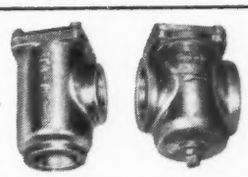
Granco Pumps with Standard Gear Drive Reduction in Oil Tight Housing, S Drive.



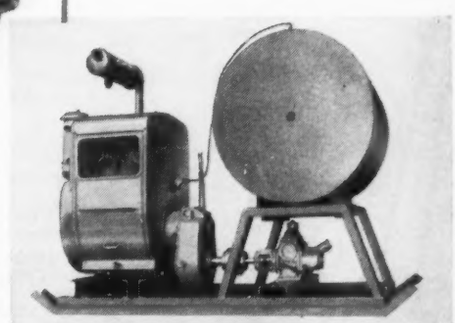
Model HF transport pump with 3" suction and 2½" discharge connection.



Model HH 3" pump with both 3" flanged and 3" threaded connections.



Granco fast-flow Pump Suction Strainers.



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Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 15th.

Pennsylvania group holds annual Spring Convention

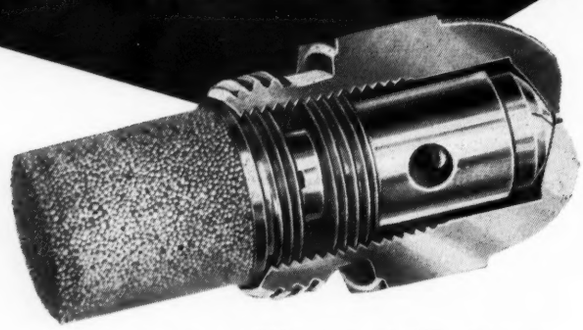
THE BEDFORD SPRINGS Hotel, Bedford Springs, Pa., was the site of the 1955 Spring Convention of the Pennsylvania Petroleum Association. The meeting was May 15-17.

The program for the meeting included a series of 5-minute talks by H. H. Blake, Manordale; I. L. Kirschner, Kirschner Bros.; Charles Eyster, Goodling Electric and Walter Schwab, on jobber problems.

During the luncheon, the group heard Charles H. Heinen, Chrysler Corp., on "Fueling and Lubricating Motor Car of Future." The banquet session was addressed by Leslie C. Allman, president, The Allman Co.

On Tuesday, there were four talks on the following subjects: "What A Jobber Expects of His Supplier," by John Harper, API; "What A Supplier Expects of His Jobber," considered by Fred H. Meeder, president, Richfield Oil Corp., New York; "Oil and the Atom," by John F. Kunc, Jr., Esso Research and Engineering Co.; and "The Toll Road Problem," by an official of U.S. 22 Ass'n.

A GOOD TIP from Monarch



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Until you can see the flame you can't tell whether or not a burner is firing properly! With a Monarch Flame Mirror you can see to check that the flame is balanced, the electrodes properly located, and that there is no flame impingement on the firebox or air cone.

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Upper Midwest Club elects new Officers for the Year

AT A RECENT ELECTION MEETING, the Upper Midwest Oil Men's Club named Clarence Moores, Direct Service, as president. Others elected at the meeting included Vern Nelson, Cities Service, vice-president; Morrie Longballa, Petroleum Service, secretary; and D. K. Lindgren, Pure Oil, treasurer.

Appointed to the board of directors were Bob Hartmann, Shell Oil; Lee Johnson, Brown Steel Tank; and Fred Meyer, Rapids Tire Service. Dale Horlitz, Butler Mfg. Co., was assigned the House Committee chairmanship.

Coil Manufacturers name W. C. Jones as President

W. C. JONES, manager of the Heat Transfer Section of the Westinghouse Corp., has been elected president by the Heating and Cooling Coil Manufacturers' Association, Detroit, Mich., at their annual meeting at the Hotel New Yorker, New York, N. Y.

Also elected at the same time were L. A. Childs, assistant to the president of the Aerofin Corp., vice president; and G. W. McCormick, Jr., secretary-treasurer.

Loupee chosen President by Michigan petroleum Group

THE MICHIGAN Petroleum Association, Detroit, Mich., has elected B. L. Loupee, Service Oil Co., Cassopolis, Mich., as president. He will succeed A. L. Truesdell, J. Austin Oil Co., Wayne.

Other officers elected for a period of one year at the Association's first annual spring convention in the De-

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troit Leland Hotel are: Vice-president, Frank Fehsenfeld, Crystal Flash Petroleum Corp., Grand Rapids; Secretary, V. H. Kellerman, Star Oil Co., Port Huron; Treasurer, Ferris Rennie, Rennie Oil Co., Traverse City; Executive Secretary and General Counsel, Joseph Hadley, Detroit.

NCOHA Meeting considers Credit and Advertising

BECAUSE of the importance of credit problems in the oilheating industry, the Northern Connecticut Oil Heat Association, Hartford, Conn., established an Oil Men's Credit Bureau at the May 11 meeting at the Southern Plantation, Hartford.

In addition to considering credit procedure, the group's advertising program was reviewed. It was decided to concentrate newspaper advertising during May on two ads featuring the slogans "Oil Heat Costs 1/3 Less" and "Save and Be Safe—Oil Heat—Your Best Fuel Buy."

A second billboard has been posted throughout the NCOHA area. There now are 28 posters in this showing with 16 regular and 12 illuminated.

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with 4 Minneapolis-Honeywell controls, including V4001A Delayed Oil Valve, factory mounted.

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Canadian Distributor
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Industrial Group hears A. I. Jaffe on Insurance

"THE MOST SIGNIFICANT DECISION you can make is the choice of your broker" was the main point of a talk by Alfred I. Jaffe, vice-president, Jaffee Agency Inc., New York N. Y., insurance underwriters, in a talk before the Association of Industrial Oil Burner Contractors, Inc. at the Hotel New Yorker on April 27.

Advising against "being a good guy and dividing insurance among several brokers," Jaffee warned the group that under such conditions the businessman cannot expect any one broker to serve his interests well.

In addition to Jaffe, Joseph Minden, Leon Rosenblatt, Inc., also addressed the group. Minden explained the broker-client relationship and outlined duties and responsibilities of one to the other that aid in smoother handling of insurance.

Chicago Oilmen's Club holds Anniversary stag Dinner

THE GOLD ROOM of the Congress Hotel, Chicago, Ill., was the scene, April 28, of the Thirty-First Anniversary Stag Dinner of the Chicago Oilmen's Club. Featuring a chorus of "fifty," along with the Club's Minstrels, the entertainment arrangements were handled by Gary Garrett.

On May 12, at the group's regular meeting, the documentary film "The Battle of San Pietro" was shown.

Western Mass. Council plans promotional Project

THE FUELOIL COUNCIL of Western Mass. held its annual dinner meeting at Springfield's Hotel Sheraton-Kimble on April 26. After the preliminary business details of the session, the 200 oil men in attendance heard Fred N. Beckwith discuss industry progress particularly in connection with oil-heating educational work.

They later heard Robert Gray, edi-

tor, FUELOIL & OIL HEAT, discuss the needs for greatly accelerated industry promotion in view of competitive fuel activities in the region.

Last year the council, just organized in April, raised enough money from dues and contributions to engage a full-time secretary, Keith Fletcher. In addition the group conducted a modest advertising campaign through several months in newspapers.

The group also set up a credit bureau activity in its first year.

Much of the discussion at the local meeting was tied to the need and the plans for a new cooperative advertising campaign this year. Gray described the new activity in which a New York office has been established by major companies and terminal operators to assist local campaigns. It was pretty generally agreed that the new campaign would be in operation soon, with some considerable assistance from the major companies.

Saul Simons is president of the group and William H. Flood is annual dinner chairman.

IOMA publishes Magazine for New England oil Industry

AIMED at being the "voice and helper" for all segments of the oil industry in New England, the Independent Oil Men's Association of New England has announced publication of the "*Yankee Oilman.*"

The new magazine will carry statistics and trade facts as well as the promotion and progress of individual oil men. Subscription to "Yankee Oilman" is $2.50 per year and further information may be obtained from the Associations headquarters at 25 Huntington Ave., Boston 16, Mass.

OHI of Washington to hold industry management Seminar

A THREE-DAY industry management seminar will be held June 15-17 by the Oil Heat Institute of Washington in conjunction with the University of Washington's College of Business Administration.

An intensive business training session for owners, managers and department heads, the school will offer courses on Human Relations and Personnel Management, (Professor Robert Sutermeister); Financial and Accounting Controls, (Professor Arthur M. Cannon); and Marketing and Public Relations, (Charles Miller).

Also included in the course will be a panel discussion, to be handled on "The Economic Future of the Pacific Northwest," with representatives of the natural gas and fueloil fields considering their industry's roles along this line. An address by an outside speaker will complete the business portion of the schedule.

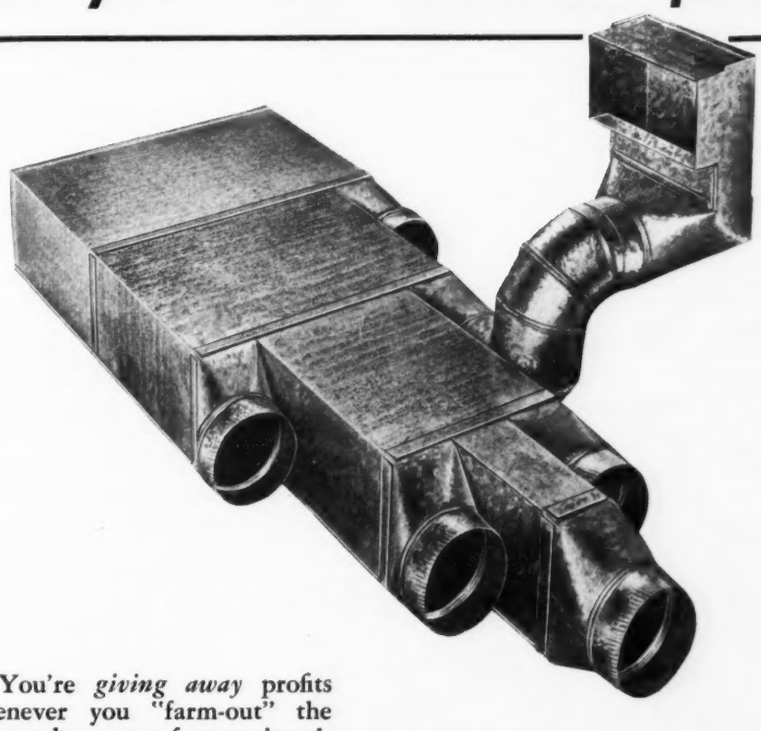
Cost of the course is $60.00 per person, and includes housing, all meals, texts used in the course, diploma and reception and banquet.

Philadelphia service Group names Davidson President

JACK DAVIDSON, Cities Service Oil Co., Bala-Cynwyd, Pa., has been elected president of the Philadelphia Oil Heating Service Managers' Association.

Other officers elected at meeting included George R. Moore, Elliott Lewis

Keep ALL the Profits
on your next warm-air job!



● You're *giving away* profits whenever you "farm-out" the ductwork on your furnace installations. You can easily handle the complete job yourself with "Snap-Rite" prefabricated ducts and fittings. You don't need a sheet-metal shop or special equipment—the patented quick-locking feature of "Snap-Rite" ducts and fittings makes them easy to assemble.

Shown above is our most popular and simplified No. 160 line which consists of a square main trunk with round branch lines. This is accomplished through the use of our standard stock trunk pipe with "pre-notch" feature and our No. 160 round branch takeoff as illustrated, effecting a reduction in size of main trunk at each branch. This method produces a neat air-tight installation, low in cost and easy to balance.

Write for our catalog now and keep ALL the profits on your NEXT job!

GRAY METAL PRODUCTS, INC.
P. O. Box 1449 Rochester, N. Y.

Corp., vice president; Charles R. Shaffer, Sinclair Refining Co., Automatic Heat Div., secretary; and Louis Battista, J. E. Kunkel Co., treasurer.

Credit Manager Group holds annual Meeting in New York

"CREDIT MANAGEMENT in an Expanding Market" was the basic theme of the 18th annual conference of the Association of Eastern Petroleum Credit Managers held at the Hotel Statler, New York, April 27-29.

A series of talks on the theme were presented by J. L. Brown, director of Research and Statistics, N. Y. Stock Exchange; D. P. Clark, general manager, Direct Sales, Gulf Oil Corp.; A. C. Horrocks, Public Relations Counsel, Goodyear Tire and Rubber Co.; Dr. M. Nadler, professor of Finance, New York University; and J. L. Wood, assistant treasurer, Johns-Manville Corp.

Another highlight of the meeting was a panel discussion on "What's Ahead for Business in 1955." Five general credit managers considered topics pertaining to this subject submitted by conference members.

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According to F. Raymond Kraemer, retiring president of the Association, more than 100 credit executives from the Atlantic Seaboard were in attendance.

Officers elected at the session included U. V. Davis, Esso Standard Oil Co., Boston, president; A. C. Cater, Socony Mobiloil, Buffalo, L. B. Morgan, Sun Oil Co., Pittsburgh, and E. A. Schramko, Esso Standard Oil Co., Philadelphia, vice presidents and members of the Board; C. M. Mathewson, Cities Service, Boston, secretary-treasurer; elected to the board of directors: I. A. Keller, Shell Oil Co., Boston; W. S. Morris, California Co., Barber, N. J. and S. G. Steiner, Gulf Oil Co., New York.

Next April's conference is planned for the Hotel Somerset in Boston.

ASRE has final 1955 Meeting at Typhoon's Brooklyn Plant

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A question and answer period was held, and then a general discussion on air-cooled condensers.

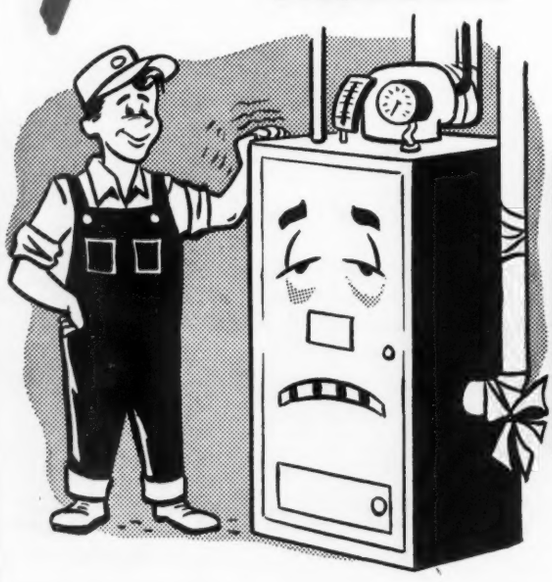
Union County Dealers attend ball Game for annual Outing

ON JUNE 3 members of the Union County Oil-Heat Association, Plainfield, N. J., attended a night baseball game at the Polo Grounds where the New York Giants played the Chicago Cubs.

(*Please turn to page* 160)

This job calls for . . .

Firomatic PRODUCTS

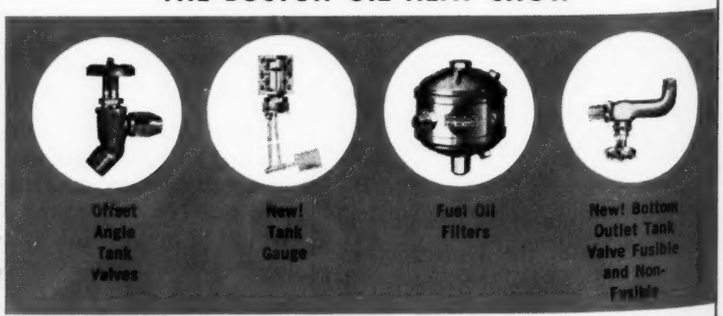


FUSIBLE & NON-FUSIBLE VALVES
FUEL OIL FILTERS • SAFETY DEVICES

The men who sell and install Firomatic products know their many advantages: (1) a substantial profit on every product (2) trouble-free performance, eliminating time and money-wasting call-backs, and (3) ease of installation, guaranteeing a fast, tight job every time.

The Firomatic line includes over 80 different types of Valves, as well as Thermal Switches, Fuel Oil Filters, Tank Gauges, Fill Boxes and Vent Caps. Sold nationally by jobbers only.

VISIT THE FIROMATIC BOOTH, #217, AT THE BOSTON OIL HEAT SHOW



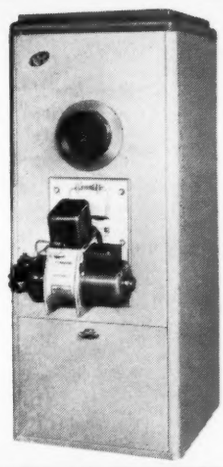
THE MORSE SMITH MORSE CO.

165 Dexter Avenue • Watertown, Mass.

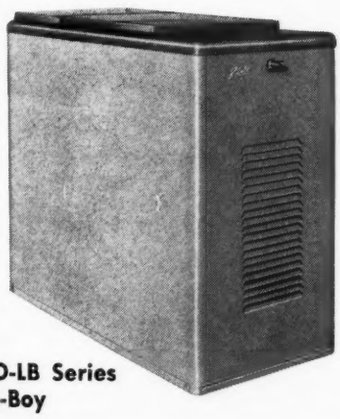
THE THREE MUSKETEERS

ANNOUNCE A NEW LINE OF Rybolt "WHISPER Quiet"

WINTER AIR CONDITIONERS

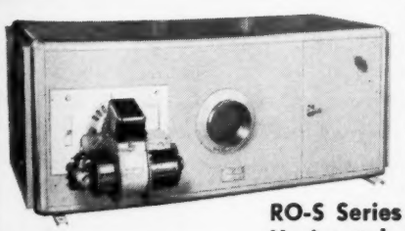


RO-HB Series Hi-Boy



RO-LB Series Lo-Boy

RO-CF Series Counterflow



RO-S Series Horizontal

We offer no fancy sales pitch, just honest, dependable, efficient units.

We do not boast of one furnace every two minutes nor do we offer pots and pans to Rybolt purchasers, but we do boast of our 50 years of service and offer you one of the finest units on the market.

Buy Rybolt, Compare!
Made right! Priced right! Write! Wire! Call!
For price and sales franchise information.

84 SIZES OF SUMMER AND WINTER AIR CONDITIONERS TO CHOOSE FROM!

Oil Fired
4 sizes Hi-Boy
4 sizes Counterflow
6 sizes Lo-Boy
3 sizes Suspended

Gas Fired
5 sizes Hi-Boy
6 sizes Counterflow
8 sizes Lo-Boy
2 sizes Lo-Boy
2 sizes Suspended

Coal Fired
4 sizes Gravity
4 sizes Forced Air

Cooling
3 sizes Water Cooled Vertical
2 sizes Water Cooled Horizontal
2 sizes Air Cooled Vertical
2 sizes Air Cooled Horizontal
8 sizes Water Cooled Gas Combination
8 sizes Air Cooled Gas Combination
6 sizes Water Cooled Oil Combination
6 sizes Air Cooled Oil Combination

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THE RYBOLT HEATER CO.

ASHLAND, OHIO

fueloil & oilheat

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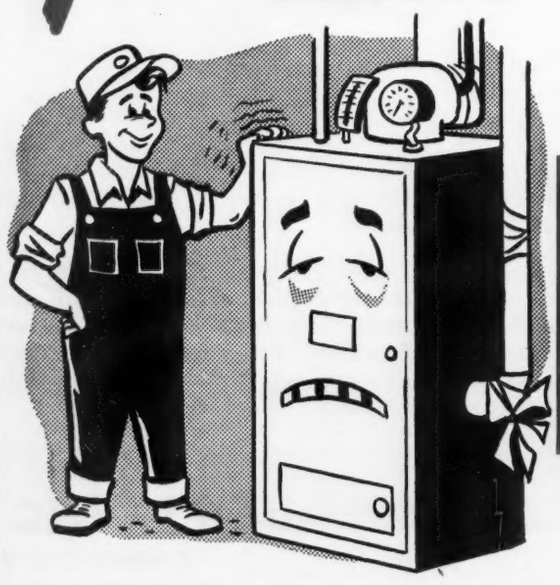

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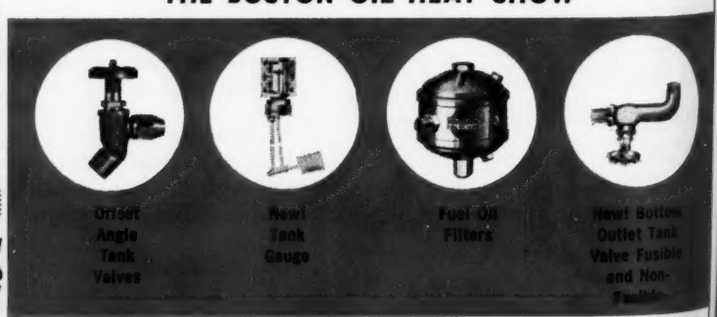


THE MORSE SMITH MORSE CO.

165 Dexter Avenue • Watertown, Mass.

RO-HB Series Hi-Boy

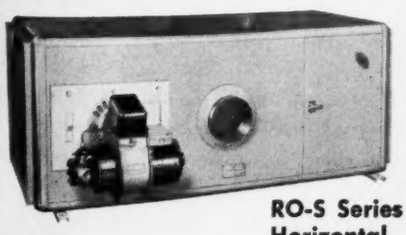
THE THREE MUSKETEERS

ANNOUNCE A NEW LINE OF *Rybolt* "WHISPER *Quiet*"

WINTER AIR CONDITIONERS

RO-LB Series Lo-Boy

RO-CF Series Counterflow



RO-S Series Horizontal

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We do not boast of one furnace every two minutes nor do we offer pots and pans to Rybolt purchasers, but we do boast of our 50 years of service and offer you one of the finest units on the market.

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THE RYBOLT HEATER CO.

ASHLAND, OHIO

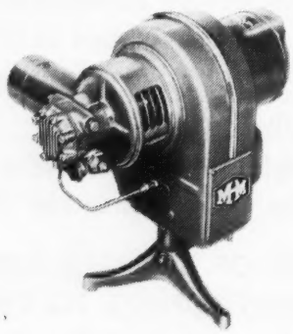
fueloil & oilheat

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 159 to FUELOIL & OIL HEAT, *2 West 45th St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Mt. Hawley's All-in-One Oilburner Capacity ranges from .6 to 4.5 gph

THE ALL-IN-ONE oilburner, Model F-45, capacity of .6 to 4.5 gph, has been introduced by Mt. Hawley Manufacturing Co. The range of heating capacities can be achieved in minutes by changing air diffuser, choke ring and commercial nozzle.



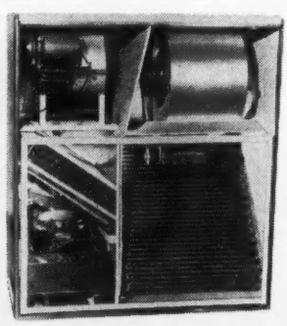
Dealer receives three air chokes and one air diffuser in addition to those already installed in burner. Available in three tube lengths with universal flange or pedestal mounting, the burner weighs 52 lbs.

Made by: Mt. Hawley Manufacturing Co., Peoria, Ill.

Circle E1 on coupon, page 159

Lennox includes air cooled Models in its latest airconditioning Line

LENNOX FURNACE has announced an expanded line of airconditioning equipment, including improved water cooled models in 2, 3, 4, 5 and 6 ton capacities and newly-developed air cooled systems in both remote and self-contained units. Remote systems will be available in 3 and 5 ton capacities; self-contained units (illustrated) will have 2 and 3 ton capacities.



The remote models feature the "high side," consisting of compressor, condenser and blower, drier and controls, housed in a weather proof cabinet; "low side" components —evaporator, expansion valve and filter—are built into a compact cabinet for positioning directly on top, below or adjacent to a forced air furnace.

The self-contained units, which are fully hermetic, are cleaned, dried and charged under factory controlled conditions and welded completely shut. They are equipped with condenser surface area and a condenser blower large enough to handle 900 to 1,000 cfm over the condenser per ton of cooling. Units can be installed in the basement, utility room or carport.

Water cooled models include blower powered units for homes and store type units with diffusing heads. Also, there are additive units in this line to convert forced air heating to year-round airconditioning.

Made by: Lennox Furnace Co., Marshalltown, Ia.

Circle E2 on coupon, page 159

Shell Chemical develops Insecticide for addition to liquid Fertilizers

DIELDRIN, made by Shell Chemical Corp., is a new insecticide which can be added to liquid fertilizer and sprayed on lawns. It kills lawn-destroying surface insects. It also goes beneath the surface to kill white grubs, wireworms, root maggots and other pests that feed on roots and destroy grass. Dieldrin will kill mosquitoes, fleas and chiggers that live in the grass and shrubbery around the house.

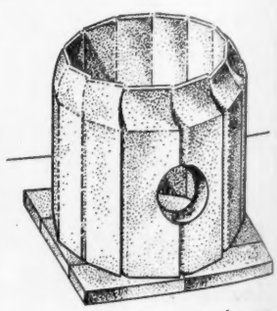
One application affords long lasting protection. Dieldrin is available through many insecticide formulators under their own brand names.

Made by: Shell Chemical Corp., 50 W. 50th St., New York 20, N. Y.

Circle E3 on coupon, page 159

Iron-Hide Flame-Chief Chamber; and self-locking firebox Baffle

FLAME-CHIEF combustion chamber, machined to shape of B & W K20 white insulating brick, is available in four packaged chambers or runners may be purchased separately for chambers up to 5.0 gph. The packaged chambers are available for gallonage capacities from 0.75 to 2.0. The one-piece runners can be set up with the top bevel on the inside or outside and are made in 14½" and 18" heights. Packaged lightweight chambers contain the required number of runners, split brick for the floor and stainless steel tightening band.



The Flame-Chief kiln fired firebox is available in 10, 12, 14, 16 and 18" diameters and features a self-locking one-piece iron clamp which slides over the two halves of the baffle and holds them securely. An adjustable baffle holder also is offered.

Made by: Iron Hide Sales Co., Matawan, N. J.

Circle E4 on coupon, page 159

Quality... always under rigid control!

BETTER HEATING—

Taco

BETTER WITH TACO.

Better products for longer, more dependable service... assured by rigid step-by-step TACO quality control.

Your profit and reputation depend upon customer confidence and satisfaction, factors which are completely dependent upon the reliability of the products you install.

TACO'S industry-leading program of statistical quality control engineering builds quality into products as they are produced, *before you install them!*

TACO HEATERS, INCORPORATED
1160 Cranston Street, Cranston 9, Rhode Island

fueloil & oilheat

BUDGET CUSTOMERS ARE STEADY CUSTOMERS

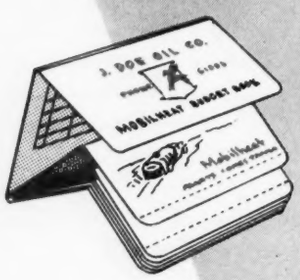
CUT IT OUT

Cut out those late payments from budget customers! Cut out excess payment recording time . . . matching loose checks with accounts! Cut out costs of replacing lost customer payment slips. Cut it out! by making it easy for customers to pay.

HOW?

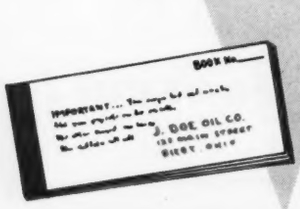
Cut out the coupon below and send for full information and samples of the newest, best-looking, most economical budget payment plan you've ever seen.

CROMWELL ENVELOPE PACKETS



Bound into one handy, loss-proof book are ten consecutively numbered, pre-addressed, two-color coupon payment *envelopes.* Your name, slogan, product, trade-mark are printed in bright, attention-getting red . . . an exclusive Cromwell feature.

COUPON BOOKS



Exclusive, two-color, consecutively numbered coupon books are another dealer favorite from Cromwell.

CUT OUT AND SEND COUPON NOW!

CROMWELL PRINTERY, INC.
CHURCH AT BLEECKER, ALBANY 1, NEW YORK

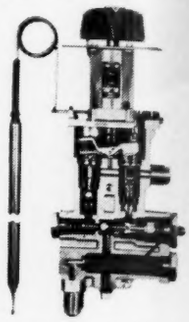
Please send me without obligation, samples and complete information.

NAME.....
COMPANY.....
ADDRESS.....
CITY & STATE.....

For a Bigger, Better Business Sell Budget Buying

'Selectaflow' Control for year round Systems made by Detroit Controls Corp.

FOR USE on systems utilizing either hot or cold water, Detroit Controls has designed the "Selectaflow" control. The automatic thermostatic selector valve for year round airconditioning systems changes over from summer to winter. Occupants select the most comfortable temperature and the adjustment knob need never be touched unless a higher or lower temperature is deisred.



The valve requires no pneumatic lines or electrical connections. Its operation is completely mechanical and automatic. All parts are corrosion resistant. Available in two capacities, the proper size is determined by correlating the pressure drop with rate of water flow.

Made by: Detroit Controls Corp., Detroit, Mich.

Circle E5 on coupon, page 159

B & G announces expanded Line of "U" Tube heat Exchangers

AN EXPANDED LINE of standard "U" type heat exchangers announced by Bell & Gossett includes "SU" models, designed principally for heating water with steam in capacities from 16 to 1,200 gpm. Constructed for 150 psi working pressure, practically all sizes are carried in stock. They can be furnished in ASME construction at no extra charge.

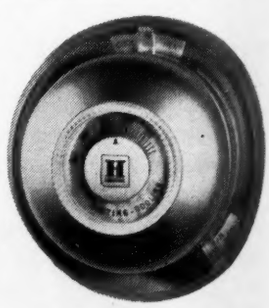
Type "WU" heat exchangers are standard shell and tube units that use boiler water for heating, employing the B & G booster for circulating the boiler water. These units also can be used as condensate coolers, are constructed for 150 psi working pressure and can be furnished in ASME code material.

Made by: Bell & Gossett Co., Morton Grove, Ill.

Circle E6 on coupon, page 159

Heating-Cooling and Cooling only Thermostats designed by Honeywell

THE HONEYWELL ROUND has branched into the field of air-conditioning controls. The new thermostats (T-87A and T-87C) provide finger-tip control of cooling and model T-87A manual selection of heating or cooling. Switches, mounted on a sub-base, give a choice between automatic cooling and system shut-off; heating, cooling or system shut-off; and cooling, system shut-off and constant or intermittent fan operation.



Both thermostats are used with Honeywell's heating-cooling panel W-212 in which all accessory controls are mounted in a single panel for easy installation. They fea-

ONE WHITE 3000

WHITE 3000 SIX-WHEELER FOR 4,000 GAL. TANKER

BIG LOADS of heavy fuel oil in this White 302864 OH for industrial bulk deliveries handled so efficiently that it led to . . .

leads to Another...

EXTRA PAYLOAD IN THIS MODERN WHITE CITY UNIT

THIS Model 3024 with 2,700 gal. tanker for light fuel oil trips. Has meters and pumps . . . 5-compartment tanker for residential service.

For Weber-Bunke-Lange Co.

NEW YORK

THE LEADERS pick Whites for extra economy . . . extra efficiency. Weber-Bunke-Lange Co., of New York, for example, first introduced the White tandem axle 3000 for industrial fuel oil delivery.

Savings were so noticeable on bulk deliveries that they added a new White for residential deliveries. Advantages of the "3000" are just as important in this service, delivery records show.

It's the same wherever you see the White 3000 at work. Find out how White can save more . . . earn more . . . for you.

- **Boost Tank Payloads**
  More deliveries now possible
- **Saves Delivery Time**
  Maneuverability makes parking easier
- **Saves Space on the Street**
  White 3000's have two feet shorter over-all length with same payload
- **Saves on Maintenance**
  Patented power-lift cab saves time
- **Saves Drivers Time and Energy**
  White cab comfort, visibility and safety are driver favorites

THE WHITE MOTOR COMPANY
Cleveland 1, Ohio

FIND OUT HOW WHITES MEAN A BETTER RETURN ON YOUR *Transportation Investment*

WHITES can be tailored to your exact operating conditions for more work . . . faster deliveries. Ask your White Representative for an analysis of your transportation needs—he can save you money.

White

FOR MORE THAN 50 YEARS THE GREATEST NAME IN TRUCKS

fueloil & oilheat

ture adjustable heaters to prevent excessive temperature increase before the compressor turns on. The cooling-only control is identical in appearance with the Round heating thermostat and can be mounted alongside the heating control in installations having separate heating and cooling systems.

Made by: Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Circle E7 on coupon, page 159

Automatic Switch direct lift, solenoid Valve in forged Brass

DESIGNED for low pressure application up to seven psi is a new direct lift, solenoid-operated, packless valve by Automatic Switch. The valve comes in 3/8" and 1/2" pipe sizes and features simple construction — the only moving element is a stainless steel core and composition disc housed in heavy duty forged brass.

The 8030A valve can be used to control light fuel-oil. Large size ports assure greater flow at exceptionally low pressure drop.

Made by: Automatic Switch Co., Orange, N. J.

Circle E8 on coupon, page 159

Air-cooled airconditioning Units added to Thatcher Furnace Co. Line

COMPLETELY AIR-COOLED summer airconditioners have been added to Thatcher's series of commercial and residential water-cooled airconditioners. The new unit has a remote-located condenser which can be installed in or out of doors, wherever air circulation can be maintained. Copper tubing carrying the refrigerant connects the condenser with a direct expansion cooling coil.

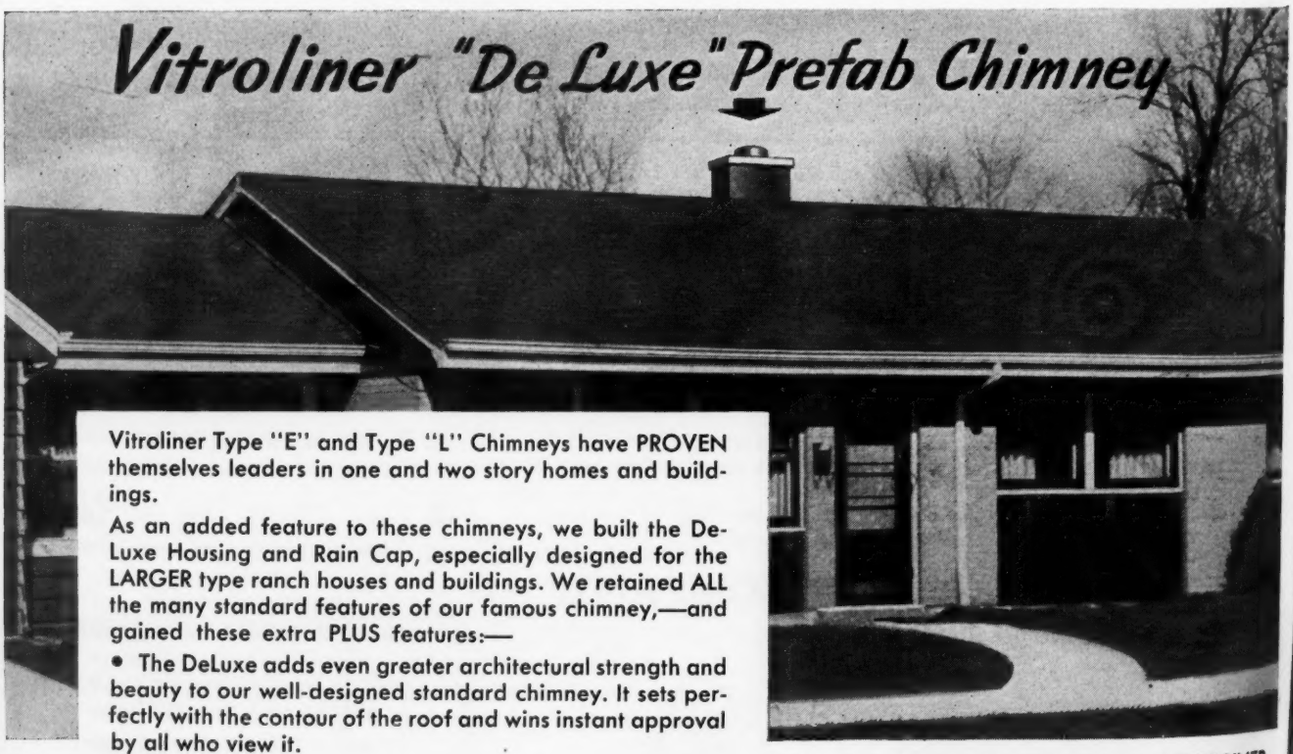
The condensing unit is made of heavy gauge steel and consists of a four-row copper tubing condenser coil; gas-cooled hermetically-sealed meter compressor; welded steel receiver equipped with safety pressure relief; and a continuous-duty blower.

Where blowers are required Thatcher has a housed blower-coil assembly. This packaged unit includes blower, evaporating coil, expansion valve and condensate pan. The airconditioners come in three models with condenser units of 2, 3 and 5 hp and cooling coils of 2, 3 and 5 tons. Blower-coil assemblies come in 2, 3 and 5 ton capacities.

Made by: Thatcher Furnace Co., Garwood, N. J.

Circle E9 on coupon, page 159

Vitroliner "De Luxe" Prefab Chimney



Vitroliner Type "E" and Type "L" Chimneys have PROVEN themselves leaders in one and two story homes and buildings.

As an added feature to these chimneys, we built the De-Luxe Housing and Rain Cap, especially designed for the LARGER type ranch houses and buildings. We retained ALL the many standard features of our famous chimney,—and gained these extra PLUS features:—

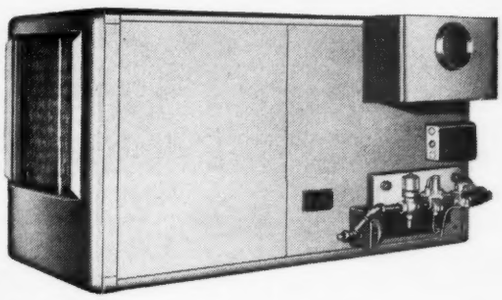
- The DeLuxe adds even greater architectural strength and beauty to our well-designed standard chimney. It sets perfectly with the contour of the roof and wins instant approval by all who view it.
- Our popular chimney becomes even more popular by offering the choice of two housing sizes:—19" square, or 19"x34".
- A beautiful solid flat grey finish that harmonizes with any roof color. It also is suitable for painting on the job.

VISIT OUR BOOTH NO. 128 AT THE OIL HEAT EXPOSITION, BOSTON, JUNE 7-10, 1955

There is only one Pioneer—that's VITROLINER
Write for circular today.

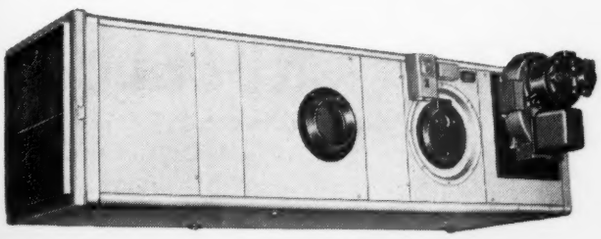
CONDENSATION
ENGINEERING CORPORATION
3511 W. POTOMAC AVE., CHICAGO 51, ILL.

IT'S Luxaire® FOR Leadership IN HORIZONTAL FURNACES



GAS FIRED . . . with 65,000, 85,000, 100,000 and 140,000 B.T.U. Input

WITH THE COMPLETE LINE OF BOTH *GAS* AND *OIL* UNITS . . . A GREATER SELECTION OF SIZES AND CAPACITIES



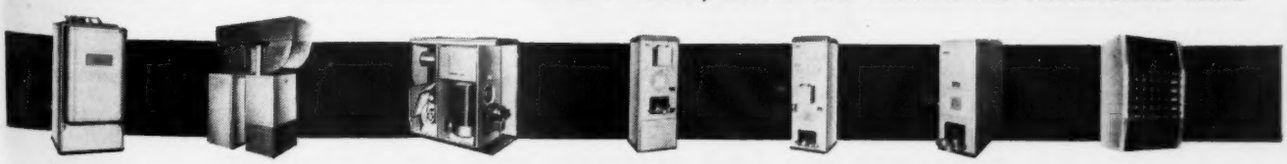
OIL FIRED . . . with 84,000, 100,000, 123,000 and 240,000 B.T.U. Output at Bonnet

COMPETITIVELY PRICED ...FOR 1955 CONDITIONS

AGAIN, Luxaire is a step-ahead in providing a more complete line of Horizontal Forced Air Furnaces. For all kinds of installations, where no floor space is available — whether for suspension overhead, or location under the floor — there is a Luxaire Horizontal Furnace for the job — a Luxaire Horizontal that is compact; is installed with ease; and provides exceptional performance. And the price is competitive, even by 1955 standards!

Now's the time to get set for leadership in your market — with the leading line of Horizontal Furnaces. See your Luxaire Jobber, today!

THE COMPLETE . . . COMPETITIVE LINE . . . OF YEAR 'ROUND, WINTER AND SUMMER AIR CONDITIONING UNITS



Year 'Round Air Conditioning Unit | Summer "Add-On" Air Conditioning Unit | Basement-Winter Air Conditioner | Compact Utility Heating Unit | Counterflow Heating Unit | Gravity Furnace | Gas Fired Unit Heater

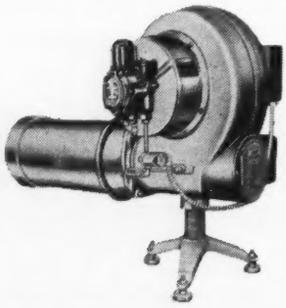
THE Luxaire® C. A. OLSEN MANUFACTURING COMPANY . . ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

fueloil & oilheat

Heavy duty Iron Fireman commercial Oilburner has 20-30 gal. Capacity

A HEAVY-DUTY pressure atomizing commercial oilburner (Model C-3) with a capacity of 20-30 gal., has been introduced by Iron Fireman.



The burner has a heavy-duty choke ring, rugged cast-iron frame, sealed for life motor, and electronic combustion controls. It is approved for firing No. 2 oil.

The burner has been designed to permit adjustment of the nozzle position while the burner is in operation. The motor contains sealed friction-free bearings, factory lubricated for life. An instantaneous cutoff and delayed opening valve on the fuel unit operates in conjunction with the safety control.

Made by: Iron Fireman Manufacturing Co., Cleveland 11, Ohio.

Circle E10 on coupon, page 159

Silent Sioux's 'Tropic Wall No. II' oil furnace has 58,000 Btu Output

AN OIL FURNACE called "Tropic Wall No. II" provides 58,000 Btu/hr. without loss of room space. Produced by Silent Sioux the wall furnace has a zero clearance, front servicing, forced heat circulation, removable burner, optional thermostatic control, built-in clean out rod, and built-in draft regulator.

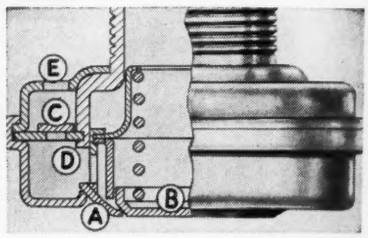
The heater may be installed with zero clearances to unprotected combustible material on bottom, sides and top. Front panel and grill are finished in light tan; sides are gray.

Made by: Silent Sioux Corp., Orange City, Ia.

Circle E11 on coupon, page 159

Inverted safety Vents for Trucks marketed by Brown Steel Tank Co.

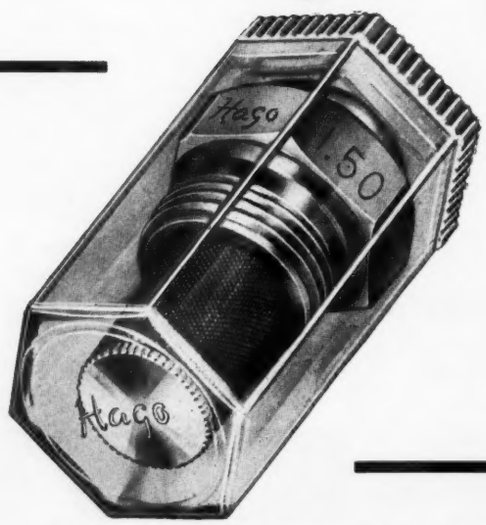
NOW AVAILABLE to all truck and trailer tank fabricators and operators is the Brownie 5-way inverted safety vent, designed for the Brown Steel Tank Company's own trucks. It fits either a 1" threaded or 1¼" blank opening in compartment fill caps or manholes.



Using the vent in each compartment is said to have the following advantages: Slightest pressure opens valve to release excess gases. If truck overturns vent will seal self yet provide automatic pressure venting through gas escape

PRECISION *Hago* NOZZLES

THE NOZZLE THAT SELLS ITSELF!



PACKED IN THE ORIGINAL CLEARSITE HEXAGON CONTAINER

ALL CONTAINER LIDS NOW IMPRINTED WITH SIZE AND DEGREE!

Red for Hollow *Blue for Solid*

Hago Products - 1281 Springfield Ave., Irvington 11, N. J.

In Canada—RICHARDSON DISTRIBUTORS, 15 Brule Gardens, Toronto

Here's **D**ouble-**B**arreled Sales Appeal!

·Increased Heating Range!
·New Compactness!

INTRODUCING

THE NEW

HEIL

DB SERIES

OIL-FIRED BOILERS!

Built to meet the most exacting demands of medium and large-sized homes, these new HEIL oil-fired boilers offer a wide heating range (144,000 to 252,000 BTU/Hr.) combined with unusually compact design. Famous HEIL engineering and construction includes perfectly matched components for outstanding efficiency and economy with either steam or hot water. Famous HEIL dependability and undivided responsibility mean reliable service and simple, safe, trouble-free operation.

Write for complete details on the new HEIL DB series — and other units in the quality HEIL line — or see your wholesaler. Remember, your HEIL wholesaler is in business to help *you* — and HEIL supports his efforts for you!

In Heating it pays to look first to HEIL — first in quality!

NEW HEIL DB SERIES OIL-FIRED BOILERS

- Three High-Efficiency Models
- Pre-Cast Refractory Combustion Chamber
- Fuel-thrifty HEIL "Focused Flame"
- Pre-Tested High Quality Tubes
- Turbulator Baffles for Quick Heat Transfer
- Unusual Accessibility for Installing, Servicing, Cleaning
- Five Interchangeable Domestic Water Heaters
  Two tankless units, 210 and 270 gal. per hour capacity
  Three storage-type units, 90, 120 and 180 gal. per 3 hours
- ASME approved boilers; ratings certified by Steel Boiler Institute

Output	Net ratings, steam	Net ratings, water
DB-2 144,000 BTU/Hr	400 sq. ft.	720 sq. ft.
DB-3 198,000 BTU/Hr	550 sq. ft.	995 sq. ft.
DB-4 252,000 BTU/Hr	700 sq. ft.	1,260 sq. ft.

THE HEIL CO.

3083 W Montana St.
Milwaukee, Wisconsin — Hillside, New Jersey

SALES OFFICES: New York, N.Y.; Union, N.J.; Atlanta, Ga.; Cleveland, Ohio; Chicago, Ill.; Milwaukee, Wis.; Kansas City, Mo.; Denver, Colo.; Dallas, Texas; Los Angeles, Calif.; Seattle, Wash.

The Heil Co. is a member of OHI, GAMA and an associate member of NHWA.

fueloil & oilheat

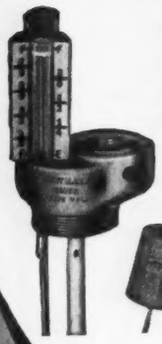
Guarantee

Carefree Fuel Supply in Oil Burner Sales

with combination

VENTALARM® GAUGE

Underwriters' Approved



The famous whistling tank fill signal and easy reading gauge in one money-saving unit. Goes on tank as integral part of vent pipe. Signal case takes the place and saves cost of reducer bushing. One less tank opening needed. One item to install instead of three.

Specify tank depth and opening when ordering.

"BUTTON-LIFT" INSTALLATION

Lifting the button indicator draws cork arm up close to main shaft for easy installation even in partly filled tanks.

or the

SCULLY® GAUGE

Underwriters' Approved

A modern convenience in every way. Big figures, adjustable face, jam-proof lever arm, cork float. Accurate service-free operation.

Specify tank depth when ordering.

and the famous

VENTALARM

T. M. REG. U.S. PAT. OFF.

WHISTLING TANK FILL SIGNAL

Accurate fuel oil delivery without home entry. Truly *automatic* fills for the householder. Makes oil supply as clean and convenient as any other fuel.

A variety of models for new and old tanks.

"Just fill while the whistle blows."

Scully Products are manufactured under U.S. and foreign patents or patents pending.

See your regular Supply House.

SCULLY SIGNAL COMPANY

174 Green St., Melrose 76, Mass.

MEMBER OIL HEAT INSTITUTE OF AMERICA OHI

Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario

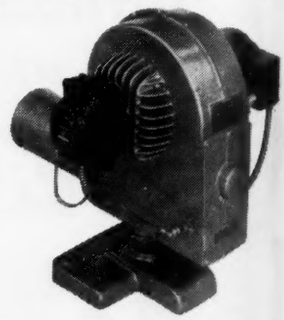
valve in case of fire. Will dispel frost that might form.

Made by: Brown Steel Tank Co., 2901 4th St., S.E., Minneapolis 14, Minn.

Circle E12 on coupon, page 159

Nu-Way's new burner Line suitable for wide Range of Applications

MEDIUM-SIZED HOMES to commercial installations can be heated with the new oilburner line announced by Nu-Way. Model CO-800 has a firing range from 3 to 8 gph. Twin nozzles and a two stage pump increase performance at all capacities. The burner is equipped with a delayed action valve. Built extra heavy the burner has a sand-cast aluminum alloy housing and a heavy Nu-Way transformer. Available with adjustable floor or flange mountings.



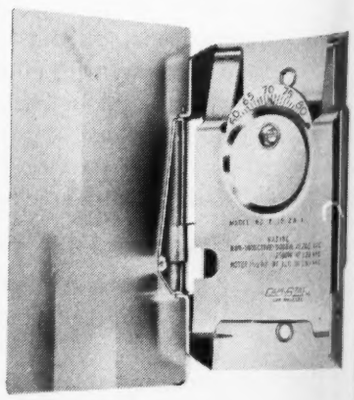
Models XL-1500 (8 to 15 gph) and XL-2000 (15 to 20 gph) also have sand-cast aluminum alloy housings. They are equipped with twin nozzles, dual ignition system, and two independent transformers, and electronic primary mounted relay. Both models have adjustable floor mountings.

Made by: Nu-Way Corp., Rock Island, Ill.

Circle E13 on coupon, page 159

Room Thermostat with decorating Advantages designed by Cam-Stat

UNUSUAL DECORATING ADVANTAGES are offered by a Cam-Stat room thermostat. The unit can be installed almost completely recessed in the wall. A satin chrome finished hinged cover conceals the unit, and swings open for desired dial setting. The cover is flat, permitting painting or the application of wall paper to blend into any decorating scheme.



The unit extends 3/4" from the wall and has ample openings to provide proper air circulation for maximum sensitivity. Rating—one half horsepower at 120 or 240 volts AC 5,000 watts non-inductive load, 240 volts AC, 2,500 watts non-inductive load, 120 volts AC. Closes circuit on temperature decrease at dial setting. Reverse acting unit for cooling can also be supplied.

Made by: CAM-STAT, Inc., 11831 W. Olympic Blvd., Los Angeles 64, Calif.

Circle E14 on coupon, page 159

Simplify all oil handling

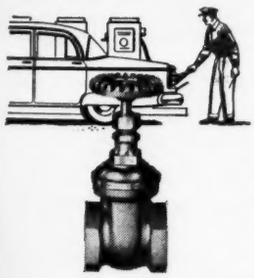
Double-disc design ends seating troubles

Lever throttle valve's ball and socket joints, specially ground for oil service, mean positive closure, longer seat life. Underwriter's approved. Model P-901-U in sizes from ½" to 3".

with the complete line of MILVACO *valves and fittings*

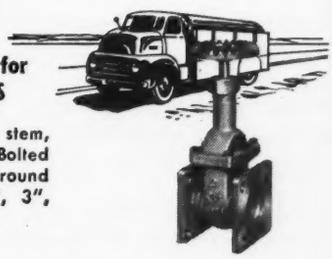
For quick control and maximum flow — in bulk plants, on tank trucks, in service stations — use MILVACO valves, nozzles, faucets, and fittings. Each size and model in the broad line is backed by more than 50 years of development and production of quality products for the oil industry.

Typical gate valves for the oil industry



Model P-2640 for FILLING STATIONS

Bronze. Non-rising stem. Solid wedge. Screwed bonnet and ends. Deep gland follower in stuffing box. Ten sizes from ½" to 3".



Model P-2654 for TANK TRUCKS

Milvaloy. Rising stem, double-disc type. Bolted bonnet. Square or round flanges. 2", 2½", 3", 4" and 6" sizes.

Models P-2680 and P-2685 for BULK STATIONS

Bronze. Stemlock type. Screwed or flanged. Lock prevents stem from turning. May be packed under pressure when wide open. Available in 1½", 2", 2½", 3" sizes.

the only line with weight-saving MILVALOY

MILVALOY weighs only ⅓ as much as bronze, yet sets new standards for rugged dependability. Strong, chemically-resistant, non-sparking MILVALOY products are ideal for any oil handling operation.

Write for your copy of our complete catalog of valves and fittings for the oil industry.

MILWAUKEE VALVE COMPANY

A Subsidiary of A-P Controls Corporation

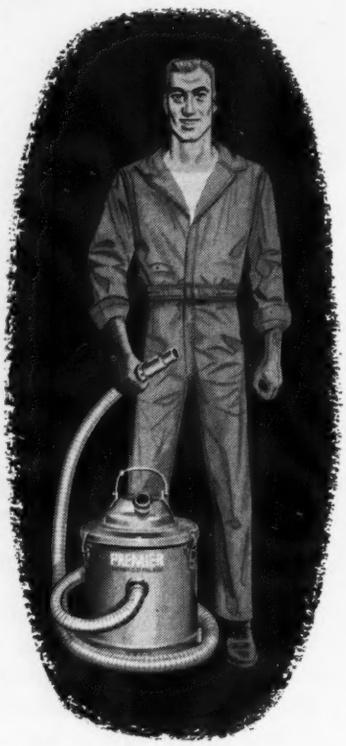
2377 South Burrell Street, Milwaukee 7, Wis.

MILVACO

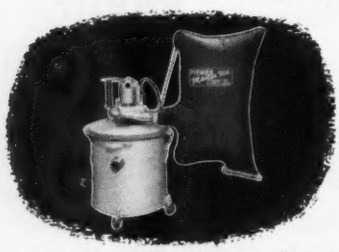
THE MARK OF PERMANENT QUALITY

now! new
SPIC-SPAN
latest, low cost furnace, air conditioning and boiler cleaner

Here's *one* example of what Premier's new Spic-Span gives you: 3 times more filtering area in standard size filter! Money-saving result: Motor lasts much longer, air flow stays stronger, and filter doesn't have to be cleaned so often. At last, a machine that meets the demands of long-time furnace cleaning men at low, low cost! Remember: this is only *one* feature of Premier's new Spic-Span. It would pay you to know *all* the features. Compare Premier's specifications with any other's. (Our specs. are honest-to-gosh true.) For your own best advantage, write for all the details NOW!



"OLD RELIABLE"



Premier 908F — Still the most popular and the most praised of all. Has the working guts and rugged construction for heaviest of heavy-duty jobs. If there is *one* furnace and boiler cleaner you should know all about, this is it! Write Now!

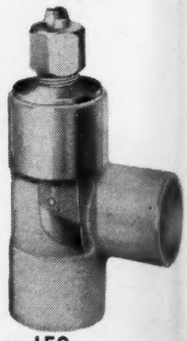
Both Premier machines listed by Underwriters' Laboratories and Canadian Standards Association.

PREMIER
the premier company
755 Woodlawn Ave., St. Paul 1, Minnesota
35 Gerrard St. West, Toronto 2, Canada

The PREMIER Company
755 Woodlawn Ave., St. Paul 1, Minnesota
Please send me more information on your ☐ Spic-Span; ☐ Old Reliable.
NAME_____
FIRM_____
ADDRESS_____
CITY_____ STATE_____

Maid-O'-Mist has angle balancing valve Adapter for cast brass Tees

A BALANCING VALVE ADAPTER fitting for angle balancing of hot water heating and chilled water cooling systems is being marketed by Maid-O'-Mist. This brass adapter (catalog No. 16) when sweated into the run of a ¾" or 1" cast brass tee, completes an angle balancing valve. Water can flow freely through the tee with no restriction, except for simple balancing adjustment which requires only a screwdriver.

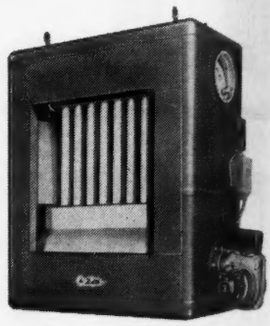


Made by: Maid-O'-Mist, Inc., 3217 N. Pulaski Rd., Chicago 41, Ill.

Circle E15 on coupon, page 159

Delta duct Heaters designed for Attachment to air cooling Ducts

DIRECT FIRED duct heaters, equipped with gun type oilburners, have been developed by Delta for installation in air cooling ducts. Designed for installation in super-markets, factories or schools already equipped with ducts for distribution of cooled air, the new units can be added to provide heating during the winter months.



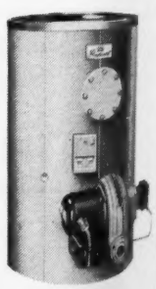
Both inlet and outlet sides of the heaters have been flanged to facilitate attachment to the ducts, with the oilburner interchangeable to either side. Largest of five sizes has an output of 200,000 Btu/hr; smallest size delivers 112,000 Btu/hr.

Made by: Delta Heating Corp., Trenton 8, N. J.

Circle E16 on coupon, page 159

Radiant makes direct oilfired water Heater for auxiliary Use

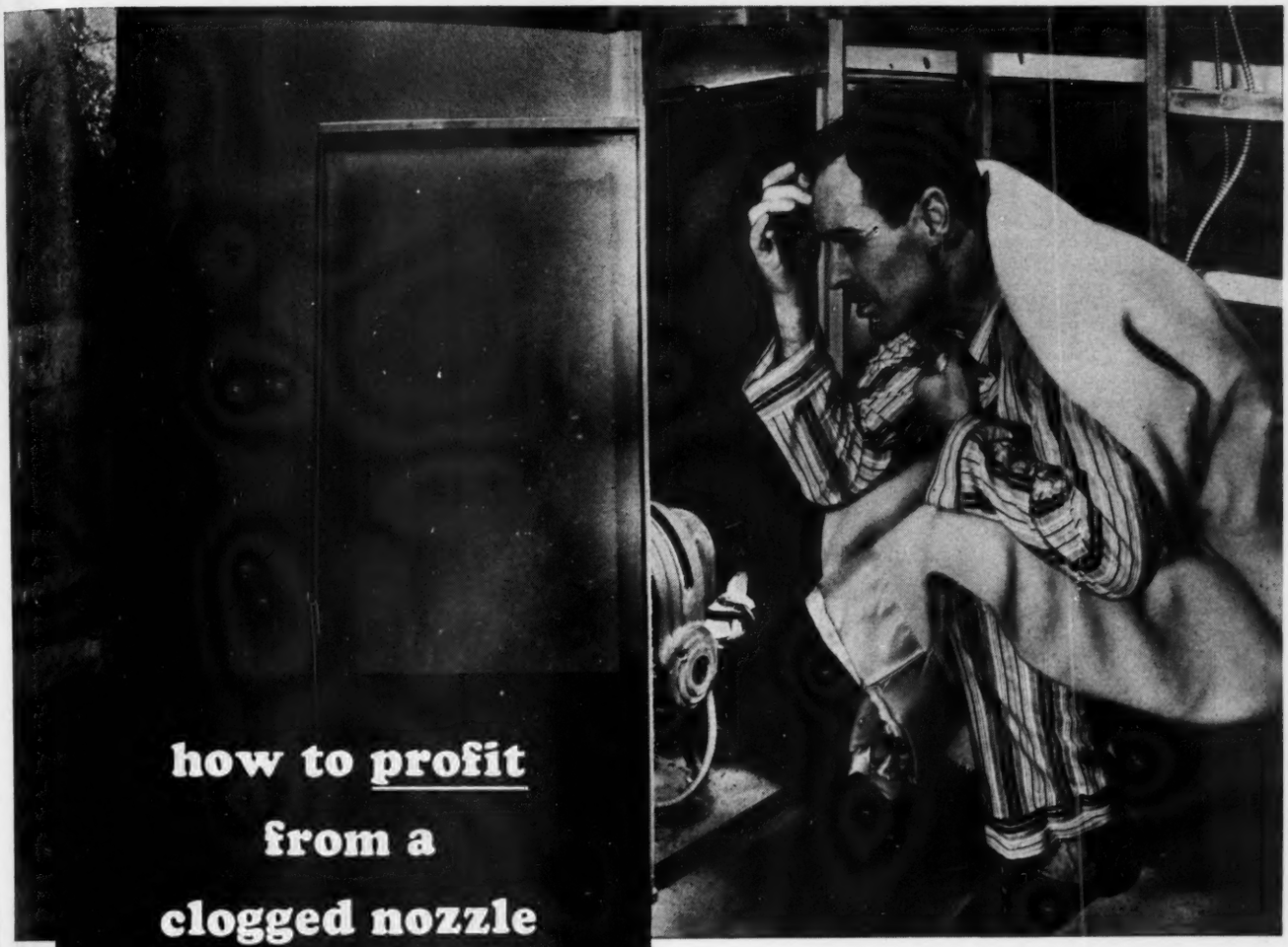
A SELF-CONTAINED, direct, oilfired water heater is being made by Radiant Utilities. Designed for low-cost, auxiliary installations in restaurants, hotels, motels, schools and other institutions the heater does not require an added fuel tank.



Heaters are furnished with combustion chamber and relief valve, have been tested to 150 lbs. pressure and are housed in insulated flush steel jackets. The unit operates independently but burns fuel from the same tank that supplies the heating unit. It is equipped with a Radiant gun burner.

Made by: Radiant Utilities Corp., 8817—18th Ave., Brooklyn, N. Y.

Circle E17 on coupon, page 159



how to profit from a clogged nozzle

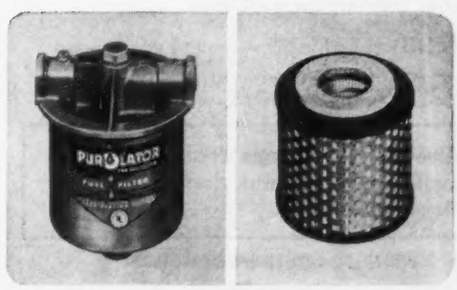
Believe it or not, there's a way you can transform this frosty situation into good will — and make a sale at the same time! Simply explain to your customer that he needs a Purolator.

If he drives a car, he's already presold. He knows what a Purolator is and what it does . . . that it's a well-built, long-lasting unit. You can point out that a Purolator PF-2002 oil burner fuel filter in his burner's feed line does a lot more than prevent nozzle clogging. It slows down wear of his fuel pump . . . keeps his burner running smoothly . . . actually lowers his fuel consumption by improving combustion. He'll be sold on Purolator, and you'll have a happier customer.

Purolators are easy to install and service

Simply connect directly into the oil supply line on the suction side of the burner pump. The pipe will carry the weight of the filter without difficulty, and you won't need to install a special mounting fixture. Once installed, the only maintenance is an annual replacement of the Purolator PF-200 filter element.

For complete details and prices of Purolator types designed for domestic oil burner installation, write Dept. OB1-612, Purolator Products, Inc., Rahway, N. J.



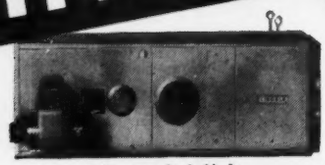
For home oil burners: PF-2002 fuel filter and PF-200 micronic refill provide ample capacity to handle recirculating fuel feed systems — refill interchangeable in most filter applications.

PUROLATOR

"FIRST IN THE FIELD OF FILTERING"

Switch to—

LINCOLN



Suspended Units

Lo-Boy Units

Hi-Boy Units

Gas-Fired and Oil-Fired Furnaces and Air Conditioners

COMPLETE LINE — size ranges from 75,000 to 180,000 B.T.U. output at bonnet.

COMPLETE PACKAGE UNITS — factory assembled and tested — ready to install.

10 YEAR WARRANTY — on both the combustion chamber and heat exchanger.

MAXIMUM HEAT TRANSFER — assured by high efficiency 12 guage steel heat exchanger.

FULLY U/L APPROVED — and acceptable by both F.H.A. and V.A.

SALES AND ENGINEERING ASSISTANCE — to help you land the sale, to help you with your installation problems.

COMPETITIVELY PRICED — every unit priced to meet today's competitive market.

Exclusive distributor and dealer franchises are available in certain desirable areas. Inquiries are invited.

WRITE FOR FULL INFORMATION

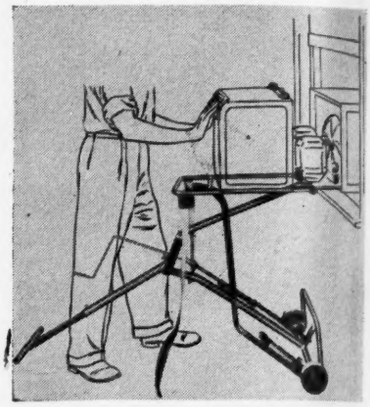
LINCOLN FURNACE Co., Inc.

MANUFACTURERS OF GAS & OIL FURNACES · AIR CONDITIONERS

232 Goffle Road • Hawthorne, N. J.

Fairbanks one-Man hand Truck eases cooling unit Delivery

THE FAIRBANKS appliance elevating truck #A-2 enables a single man to install and service even the heaviest window air conditioners. The hand truck lowers the unit from delivery truck to the ground; carries it up stairs or down, and finally will elevate it to any height up to 43" above the floor to most window sill levels.



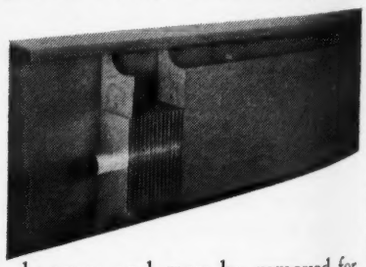
The nose iron of the truck is hinged allowing the unit to be brought flush with the wall. For servicing an air conditioner, the operator pulls it onto the truck's raised platform and then lowers it to a convenient working height.

Made by: Fairbanks Co., 393 Lafayette St., New York.

Circle E18 on coupon, page 159

Ejay 'Streamline' steel Baseboard has one piece Top and back Panel

A SPECIAL FEATURE of Ejay Baseboard Mfg. Company's new steel baseboard (Model #570, "Streamline") is its one piece top and back panel construction. This design permits installation in either a recess system or flush to a finished wall. The front panel clamps onto the hangers and may be removed for cleaning.



The core of the radiator is made from ¾" copper tubing. Heat is radiated from the core by means of aluminum fins bonded to it.

Made by: Ejay Baseboard Manufacturing Co., 124 Boyd St., Winsted, Conn.

Circle E19 on coupon, page 159

Watson's utility Pump taps truck engine Power to spray Fertilizers

A UTILITY PUMP that can develop pressures up to 350 lbs. using engine power of light trucks and pick-ups has been developed by the H. S. Watson Co. It is designed for liquid fertilizers, petroleum products, and spray chemicals. It has lightweight, compact design and corrosion-resistant construction.

Made by: H. S. Watson Co., 1316 67th St., Emeryville, Calif.

Circle E20 on coupon, page 159

Only WALKER Has It!

Automatic Draft Control with

Full Protection at All Vital Points!

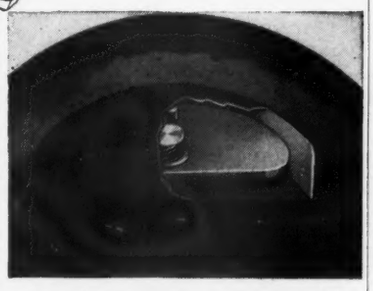
Pat. Pending

Royal Purple Model

Think of it! A draft control that's absolutely impregnable to soot, carbon, corrosion and dust . . . one that will give years of accurate, trouble-free service in spite of the most adverse operating conditions! The new Walker ROYAL PURPLE model is the first—and only—draft control with positive, all-point protection. These revolutionary improvements can't be copied or duplicated — they're exclusively Walker because of pending patents.

The Royal Purple — Hit of the Philadelphia Show

THE INSIDE STORY

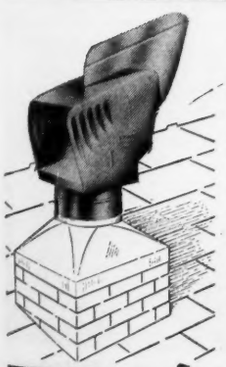


The weight adjustment assembly on the ROYAL PURPLE model is sealed in by a protective housing which keeps mechanism absolutely free from dirt deposits. Untouched photo at right shows back of vane and housing after more than a year's service. Cutaway shows spotless condition of sealed-in weight adjustment assembly. Clean, corrosion-free operating parts assure ease of adjustment at any time.

This front view of an actual installation shows location of pivot pins which control vane movement. Notice how they are located on front face of damper and set back, away from edge. Box-type hinges completely seal delicate knife-edge pivots, keeping them clean and sensitive even after years and years of service.

For complete details on this sensational new development in draft control, see your jobber or write Walker Manufacturing and Sales Corporation.

VENTURI-TOP CHIMNEY CAP

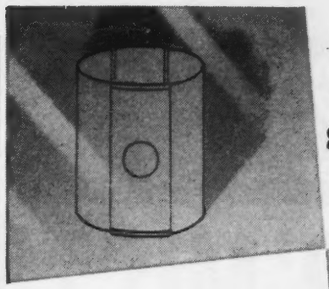


Ideal for both heating (gas, oil or coal) and ventilating applications. Directional vane keeps throat of vent facing into wind for maximum draft control. Sloping-throat design prevents back drafts and actually increases draft effectiveness by constricting it as it passes over chimney opening. Unit rotates on a friction-free, hardened-steel ball bearing. Pivot is also of hardened steel to assure lifetime operation. Ring guide bearing in pivot post keeps cap absolutely perpendicular—doesn't sag or lean. Streamlined design is both attractive and functional—a combination which makes it a favorite with today's architects.

SEE THE NEW ROYAL PURPLE MODEL AT THE EASTERN OIL HEAT SHOW IN BOSTON—JUNE 7-10—Booth 210

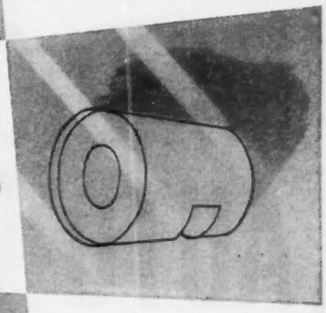
Walker Manufacturing and Sales Corp.

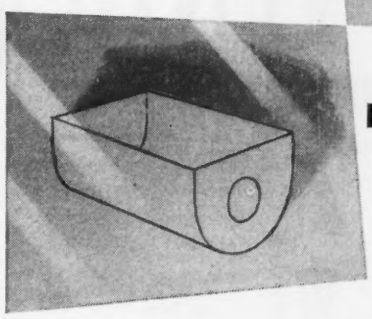
1750 Penn St. St. Joseph, Mo.



SAVE TIME—

CUT COSTS





with

HEAT-RESISTING STEELS

SHEARED TO SIZE

for your COMBUSTION CHAMBERS

In more ways than one, it pays to specify Ingersoll heat-resisting stainless steel for your oil burner combustion chambers.

Ingersoll heat-resisting stainless has exceptional forming qualities—so it's easy to fabricate. Its analysis is correct—to withstand high temperatures. It's made by specialists—so you know it's made right.

Whether you use these steels in large or small quantities, Ingersoll facilities offer exceptional service by custom shearing to your own specified combustion chamber blanks, or multiples thereof.

Advantages

OF HEAT-RESISTING STEELS

★ ***No breakage in shipment or handling***

★ ***Lighter weight lowers freight costs***

★ ***Quicker heating—greater efficiency***

Write, wire or phone for details

ENGINEERING B-W PRODUCTION

Ingersoll

STEEL DIVISION

Borg-Warner Corporation

310 S. Michigan Ave., Chicago 4, Illinois

Plant: New Castle, Indiana

3 WINNING NUMBERS
in Hot Water Heating Vents

MAID-O'-MIST AUTO-VENTS®

NUMBER 7

For pressures up to 75 lbs. This self-closing, float - operated valve gives positive action for such large capacity, continuous venting jobs as

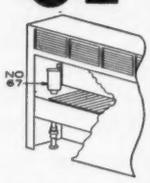
- Venting trapped mains and circulating lines
- Venting hot water convector radiators
- Venting high points on mains

No air chamber required. Size 4⅜ x 2¼". Send for Catalog Sheet No. 7.

NUMBER 67

For pressures up to 30 lbs. Designed for limited space, this self-closing, float-operated valve provides positive action for such continuous venting jobs as

- Venting convector radiators
- Venting baseboard radiators

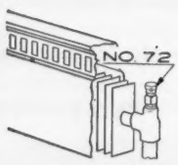


No air chamber required. Size 3-3/16 x 1½". Send for Catalog Sheet No. 67.

NUMBER 72

A fast venting valve of the expansion type. Its small size and responsive action make it ideally suited to such venting jobs as

- Venting convector radiators
- Venting free standing radiators
- Venting baseboard radiators



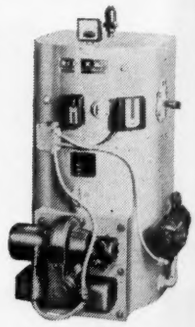
No air chamber required. Size 1¼ x ½". Send for Catalog Sheet No. 72.

MAID-O'-MIST, Inc.
3217 NORTH PULASKI ROAD
CHICAGO 41, ILLINOIS

MAID-O-MIST Inc.
HEATING SPECIALTIES

Heil introduces pre-assembled oil-fired, boiler-burner Unit

A NEW UNIT, Model WB-1, has been added to Heil's Parkway series, the company's line of furnaces and boilers specifically designed for low-cost installation in small- to medium-size homes. The boiler-burner unit is pre-assembled and pre-wired and has an instantaneous-type domestic water heater.



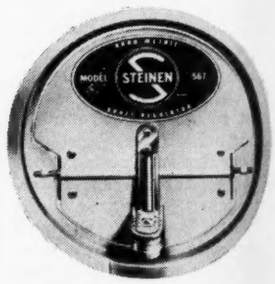
Of space saving design the unit has a burner-mounted primary control. Modified down draft is used, and the gross output is rated at 93,000 Btu/hr.

Made by: The Heil Co., Milwaukee 1, Wisc.

Circle E21 on coupon, page 159

Steinen draft Regulators now will fit 5" to 10" Smokepipe

NEW SIZES AND MODELS of Steinen draft regulators are now available for any size smokepipe ranging from 5 to 10 inches. Steinen introduced its regulator last year and has increased the legibility of the calibration device which automatically sets the back weight when the front weight is adjusted to the proper setting on the draft scale.



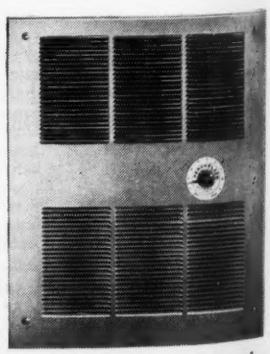
The hinges of the regulator feature hardened hinge pins, which remain stationary while the hinge bearing bracket, fastened to and rotating with the vane, rotates around the hinge pin.

Made by: Wm. Steinen Mfg. Co., 43 Bruen St., Newark 5, N. J.

Circle E22 on coupon, page 159

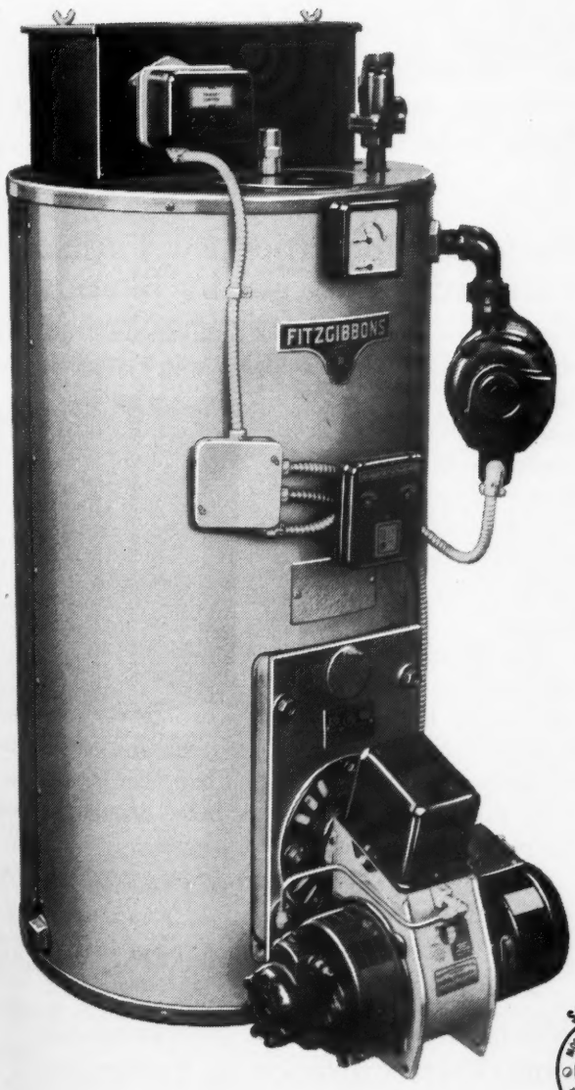
Recessed room airconditioning Unit introduced by Percoflash

WESTCOTT-ALEXANDER has introduced a Percoflash recessed unit airconditioning system which is a year 'round central system using forced water. It can be specified for structures of all sizes and types because of the wide variation in output for both heating or cooling. Independent operation of Percoflash units permit temperature balance between rooms when heating or cooling.



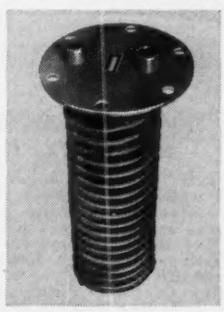
Units are 17¾ x 4¾ ins. and are installed flush to the wall between studs. All piping is concealed. The system can be installed on two pipe balanced reversed systems,

Way ahead in "tankless" hot water!



FITZGIBBONS 770 SERIES
BOILER BURNER UNITS

Put it to any reasonable test you can think of. The 770 delivers the hot water needed! The TANKSAVER® coil is large enough and carefully regulated by quick acting, dependable controls, ideally located. And *the BTU input is sufficient to raise the water temperature high enough.* The whole "system" has been engineered for domestic hot water supply as any normal household would want it. When you install a Fitzgibbons 770, you can be assured of satisfactory performance in every way—heat, hot water and rapid hook-up. The Fitzgibbons 770 is pre-assembled and wired as shown to save you time and money. Also available with enclosing jacket. See your jobber or write to the Fitzgibbons Boiler Company, Inc., 101 Park Avenue, New York 1, New York for descriptive Catalog No. 770-10.



SINCE 1886 MOST ECONOMICAL IN FUEL THE FITZGIBBONS BOILER 1886

The Fitzgibbons Boiler SBI

SEE OUR EXHIBIT—BOOTH 207, OIL HEAT SHOW—BOSTON, MASS.

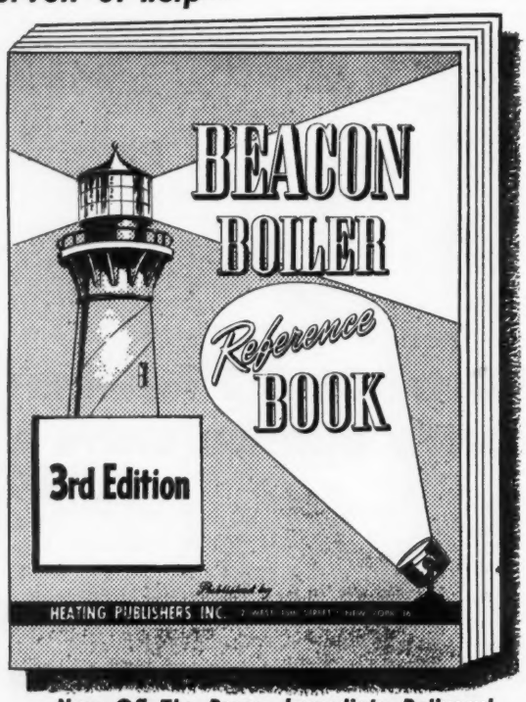
fueloil & oilheat

You Can Save Time and Money With This New Complete Comprehensive Third

11,000 HEATING BOILERS — **Edition** of — 500 BOILER TRADE NAMES

BEACON BOILER REFERENCE BOOK

Dealers, Service Men, Heating Contractors, all Heating men will find it a vast reservoir of help—



Now Off The Press—Immediate Delivery!

This new Third Edition contains much more data than the second edition which was published many years ago. The size is 8¼ x 11¼ — very handy and convenient, it contains more than 200 pages and carries ratings on domestic heating boilers up to 3,000 sq. feet of steam and equivalent Hot Water.

All ratings are taken from the Manufacturer's own statements of specifications and technical information.

Heating Contractors and all persons engaged in installation of boilers, including Dealers, Salesmen, Estimators and Service men, have highly endorsed the accuracy of information and stated how much help they derived from the contents of Beacon Boiler Reference Book.

You, too, we are certain, will also find it very valuable, helpful and profitable.

We are holding the price down to $4.00 a copy, in spite of mounting costs of printing, paper, publishing and other costs.

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Enclosed is our check for this order

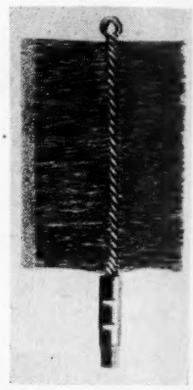
single or multi-loop monoflo systems or single or multi-manifold parallel systems. Available in complete package units.

Made by: Westcott-Alexander, Inc., Percoflash RU Div., Madison, N. J.

Circle E23 on coupon, page 159

New Ace boiler cleaning Brush has Nipple for rod Attachment

AN ADDITION to the Ace wire brush line has been announced —a flat surface boiler cleaning brush with nipple for rod attachment. It is made of round steel wire in 1", 2", 3" and 4" widths of approximately ½" thickness. The brush has been designed especially for cleaning narrow boiler baffles.



The new brush is one of a complete line made by the company, including chimney cleaning brushes, furnace and boiler cleaning and copper tubing brushes in a variety of sizes and shapes. Special brushes also can be made to order in various gauges of brass wire, fibre, bristle hair and nylon.

Made by: Ace Wire Brush Co., 146 Fulton St., Brooklyn 1, N. Y.

Circle E24 on coupon, page 159

Perfection Industries new Furnaces equipped with Regulaire Blowers

TWO NEW OIL FURNACES have been announced by Perfection Industries. Both are equipped with Perfection's Regulaire Blower, which regulates circulation of air according to the amount of heat in the plenum chamber. Model OB 95V has 95,000 Btu/hr. output; model OB 110V a 110,000 Btu output.

The burners have constant electric ignition, single stage pumps. The burners float on sound-absorbing rubber cushions assuring quiet operation. Designed for basement installation the units have cabinets finished in baked enamel bonded to rustproofed steel casings.

Made by: Perfection Industries, Inc., 7609 Platt Ave., Cleveland 4, O.

Circle E25 on coupon, page 159

Vibrasorb Belt made by Goodrich cuts down Vibration in Furnaces

B. F. GOODRICH'S "Vibrasorb" is said to absorb 24% more vibration than belts presently rated as low vibration belts.

Used on forced air furnaces the V-belt transmits power smoothly from the driving pulley of the motor to the driven pulley of the moving part. Use of special materials gives a built-in spring action so that little or no vibration is permitted to reach the framework of equipment.

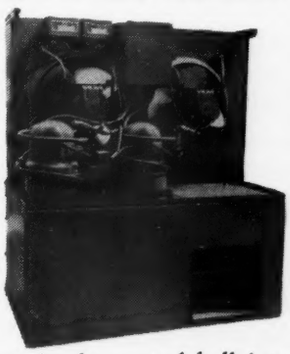
Vibrasorb belts will be available to equipment manufacturers only at this time.

Made by: B. F. Goodrich, Akron, O.

Circle E26 on coupon below

Marvair air-cooled cooling Unit is installed overhead in Attic

A THREE TON capacity airconditioner for larger homes has been introduced by Maravir. The new unit, which is air cooled, requires no plumbing, water, duct-work, or connection with the home heating system, and is claimed to be adequate for cooling all homes of 1400 to 2100 square feet under normal conditions.



Utilizing two cooling and dehumidifying systems, the airconditioner conforms to FHA and VA requirements, and has a dropped ceiling or plenum in the central hall into which conditioned air is expelled from the installation in the attic.

Made by: Marvair Division, Muncie Gear Works, Inc., Muncie, Ind.

Circle E27 on coupon below

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD JUNE
Mail Now—Card Expires August 31, 1955

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1	E2	E3	E4	E5	E6	E7	E8	E9
E10	E11	E12	E13	E14	E15	E16	E17	E18
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ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page .....Advertiser .....

Your Name .....

Company .....Position .....

Street .....

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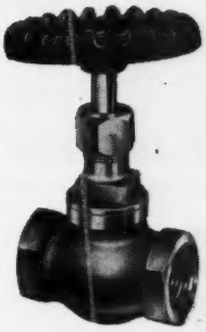
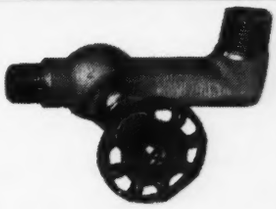
Check Classification of principal dollar volume:
☐ Fueloil Dealer ☐ Parts and Equipment Jobber ☐ Manufacturer ☐ Manufacturer Employee ☐ Manufacturers Rep. ☐ Oilheating Dealer ☐ Other

the complete line of OIL TANK FILTER VALVES

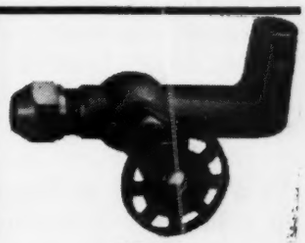
812-813
Oil Tank Valve
812—½" I.P.S. x ⅜" O.D.
¾" I.P.S. x ⅜" O.D.
813—½" I.P.S. x ½" O.D.
¾" I.P.S. x ½" O.D.



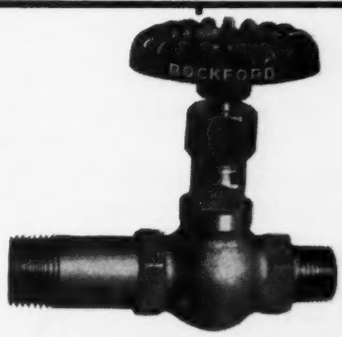
814—Brass Disc Globe Valve
¼" thru 2"



807—Bottom Outlet Oil Tank Filter Valve
½" or ¾" I.P.S. x ⅜" I.P.S.



805-806
Bottom Outlet Oil Tank Filter Valve
805
½" I.P.S. x ⅜" O.D. Flare
¾" I.P.S. x ⅜" O.D. Flare
806
½" I.P.S. x ½" O.D. Flare



809—Oil Tank Filter Valve
½" or ¾" I.P.S. x ⅜" I.P.S.

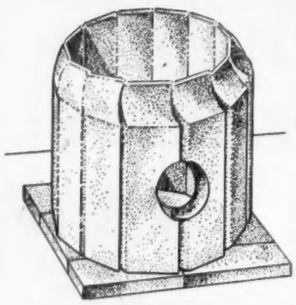
The superior features and quality of any Rockford Brass Works product quickly prove themselves in better performance and service.

Write today for our catalog showing the complete line of plumbing and heating brass products that we manufacture.

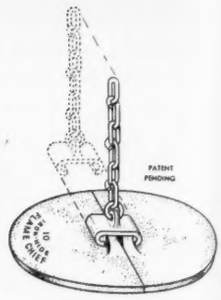
Plumbing Brass Since 1890

ROCKFORD BRASS WORKS
ROCKFORD • ILLINOIS

IRON-HIDE *presents the NEW* FLAME-CHIEF



Lightweight Adjustable Combustion Chamber made entirely of B. & W. K20 white, soft insulating fire brick. Super fast heating. Will stand temperatures in excess of 2400°. The new FLAME-CHIEF baffle: a thin white ceramic baffle, radiates luminous heat waves in seconds after burner starts. Easy to install. Self-locking — no bolting necessary.



We make a complete line of 30 models of precast chambers.

FLAME-CHIEF KILN FIRED PRODUCTS DIVISION: Iron-Hide Sales Co., Matawan, N. J.

IBR sponsors short Course at Purdue on wet heat Systems

THE LATEST DEVELOPMENTS in design and calculation of hot water, steam heating and airconditioning systems were covered when the Institute of Boiler and Radiator Manufacturers recently held a short course at Purdue University, May 23-25.

The course included laboratory demonstrations, design problems, lectures and discussion periods.

14 are named as Trustees of Education Foundation

AT A RECENT MEETING of the Petroleum Education Foundation of New York 14 new trustees were elected.

Named to serve until February 1956 were Ben Halsell, The Texas Co. and Eugene F. McCabe, Tidewater Associated Oil Co. B. C. Astrup, Shell Oil Co.; C. Gilbert Collingwood, Gulf Oil Corp. and William Greene, Oil Heat Engineering Co. will serve until February 1957.

William D. Basket, Jr., Frontier Oil Refining Corp.; Harry B. Hilts, Empire State Petroleum Association; and John Chambers, Chambers Oil Co., will serve until February 1958.

George Savory, Savory Oil Co.; Herbert Spade, E. Robison, Inc. and Bruce Wemett, Wemett Corp., will act as trustees until February 1959.

The additional trustees were named to expand the scope of the Foundation and make it state-wide in its representation. Kenody R. Ware, Sun Oil, is chairman.

Central Supply Members hear Ewald report on Activities

AGAINST A BACKGROUND of clippings from publications, J. H. Ewald, president of the Plumbing and Heating Industries Bureau, presented a report before the annual spring meeting in Chicago of the Central Supply Association on the Bureau's efforts to broaden the wholesaler's market through publicity.

"Publicity is a tool of business, fully as important as advertising and merchandising," Ewald said, and added that "Informative publicity of the type distributed by the Bureau prepares the mind of the prospective purchaser."

Ewald concluded his talk with a request for increased financial support of the Bureau's work in order to meet rising operating costs.

Oklahoma City site of ASHAE regional Meeting

REPORTS BY president John E. Haines and director of research Elmer R. Kaiser were among the highlights of a regional meeting of the American Society of Heating and Air-Conditioning Engineers held April 14-16 at Oklahoma City, Okla.

Along with the talks presented by Haines and Kaiser, reports covered such subjects as residential cooling, removal of moisture, pressure losses of divided-flow fittings, and a new method of calculating airconditioning loads.

Chairmen of the sessions, during which the various papers were heard, were Prof. Burgess H. Jennings, Northwestern University and Peter B. Gordon, second vice president of ASHAE.

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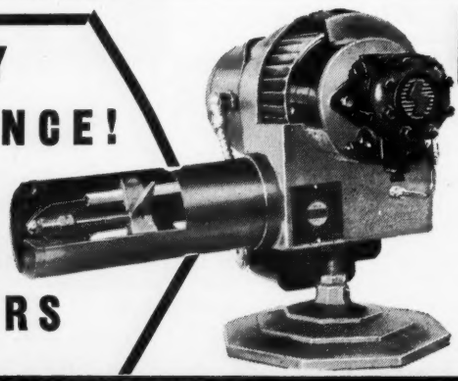
STANDARD AUTOMATIC OIL BURNERS



Trouble Free Heat for Home & Business
AT NEW LOW PRICES

- **PRECISION MADE**—All parts are machined, resulting in long life.
- **RUGGEDLY BUILT**—Constructed of cast aluminum housing, and factory tested.
- **TRULY QUIET**—No radio or TV interference.
- **DEPENDABLE**—Thousands of these burners in use the world over, for more than a quarter century.
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This new revised edition of "Oil Burners" will provide you with complete information on the most modern electronic oil-burner control devices; you'll find the answers you need in the pages of this handy handbook on "Oil Burners." Topic after topic is discussed in the twenty-two chapters and descriptions, data, diagrams, and charts covering all major types of oil burning equipment, for on-the-job use of designer installer, serviceman . . . everyone concerned with oil heating. 6¼ x 9¼. 502 pages. **$5.00**

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HAS COMPLETE DATA ON ABOUT 11,000 heating boilers — up to 3000 square feet, steam and equivalent hot water. All the new, old and obsolete boilers since the industry began. More than 500 trade names. This new third edition has been expanded in usefulness. The size — 8¼ x 11¼, bound so it always opens flat.
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This book gives the solutions to many of the Everyday Snags that annoy you in installation and service. We've been working on them for years. They are all simple and practical answers to the most common goat-getters on jobs. It's an 8½ x 11 inch book of 64 pages. ..... **$2.**

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Specialty salesmanship in our day with emphasis on burner selling by W. A. Matheson, formerly of Oil-O-Matic, long a leading figure in oilheating industry. Blue cloth binding. 6 x 9 inches, 260 pages. (SPECIAL PRICE.) .. **$4.**

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This is the first practical guide on oil burner installation. It contains the most significant articles from Fueloil & Oil Heat that covers all phases of installation step by step. It is 8½ by 11 inches and contains 64 pages. Illustrated with numerous diagrams, charts and photos. ..... **$2.**

COMMERCIAL & INDUSTRIAL OILBURNING BOOK

It contains a series of articles that have appeared in Fueloil & Oil Heat Magazine, including twelve features by Kalman Steiner. This 80-page book 8½ x 11 is profusely illustrated with photographs, charts, and diagrams. Price only ..... **$2.**

VAPORIZING BURNER SERVICE

A compilation of articles from Fueloil & Oil Heat by a veteran service manager and an oilheating engineer. Gives important wrinkles and angles of servicing pot-type units. 32 pages, 8½ x 11 inches. Many diagrams. .. **$1.**

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This book contains articles about the most important precautions to take in installations and service and thereby cut down the number of service calls. The selection is about those things which give the greatest amount of future trouble for service men. A highly practical compilation of pieces from Fueloil & Oil Heat. It's a 64-page book 8½ x 11 inches. .... **$2.**

BEACON RADIATION BOOK

The second printing of the Beacon Radiation Reference Book & Heat Loss Guide is now available. A reprint of the original edition, published in 1946, the new issue reproduces the entire series of tables showing heat loss requirements for rooms of various sizes. Range of rooms covered begins with those measuring 5 ft. x 5 ft. and continues up to rooms with 20 ft. by 30 ft. dimensions. ..... **$4.**

FUNDAMENTALS OF OILBURNER CONTROLS

It consists of a series of articles by John W. Schulz on oilburner controls, published by Fueloil & Oil Heat. The series describes the principal makes of control panels, also gives practical instructions for intalling and servicing them and understanding their internal and external wiring circuits. Size 8½ x 11. 64 pages. Price **$1.00**

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1. Practically no flow resistance—true depth filtration.
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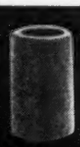

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Warm air Group will hold 1955 Convention in New York

THE FORTY-SECOND annual convention of the National Warm Air Heating and Air Conditioning Association will be held at the Hotel Statler in New York City on November 30 and December 1, 1955.

Calendar of coming Events

JUNE, 1955

5– 8—Air Conditioning and Refrigeration Institute, annual convention, The Homestead, Hot Springs, Va.

6– 9—Nat'l Assn. of Plumbing Contractors, Navy Pier, Chicago.

7–10—Oil Heat Institute of New England (Eastern biennial exposition of oilheat and domestic cooling), Hotel Statler, Boston, Mass.

8—Richmond Oil Heat Assn., William Byrd Hotel, Richmond, Va.

8– 9—American Petroleum Institute (OIIC Meeting), William Penn Hotel, Pittsburgh, Pa.

9–10—National Warm Air Heating and Air Conditioning Association (Semi-annual Meeting, Board of Trustees and Committee Meetings), Drake Hotel, Chicago.

12–15—The American Society of Refrigerating Engineers (Spring Meeting), Hotel Schroeder, Milwaukee, Wis.

13—Delaware Valley Oil Heat Assn., Buck Hotel, Feasterville, Pa.

14–15—Institute of Boiler and Radiator Manufacturers (9th Annual Short Course) Univ. of Illinois, Urbana, Ill.

16—Stanly County Oil Dealers' Assn., Jr. Chamber of Commerce Bldg., Albemarle, N. C.

19–21—Northwest Petroleum Assn. (Summer Conf.), Breezy Point Lodge, Pequot Lakes, Minn.

20—Rockford Fueloil Dealers' Assn., Lafayette Hotel, Rockford, Ill.

20—Fueloil Dealers' Assn., A.B.C., Hotel Georgia, Vancouver, Canada.

21—Wisconsin Petroleum Assn., annual golf tournament and party, Dell View Hotel, Lake Delton, Wisc.

22—Oil Heat Assn. of Gary, Ind., Hotel Gary, Gary, Ind.

27–29—American Society of Heating & Air Conditioning Engineers, (Semi-annual Meeting), St. Francis Hotel, San Francisco.

30—Wisconsin Oil Heat Assn., Wisconsin Hotel, Milwaukee, Wisc.

JULY, 1955

26—Central Suffolk Fuel Dealers' Assn., Peare's Tavern, St. James, L. I., N. Y.

AUGUST, 1955

19–21—American Petroleum Institute (OIIC Steering Committee Meeting), Traymore Hotel, Atlantic City.

21–26—National Congress of Petroleum Retailers, Inc., annual meeting, Sheraton-Cadillac Hotel, Detroit, Mich.

Manufacturers' Activities

Armstrong Furnace offers airconditioning Classes

DURING THE MONTH of May and the early part of June, the Armstrong Furnace Co., Columbus, Ohio, held a series of practical, concentrated one-week summer airconditioning schools at the company's home office.

Planned by Lou Feeney, summer airconditioning sales promotion engineer, the course was devoted entirely to sizing, installing, and servicing, aimed at simulating every possible service problem along with its solution.

UNARCO begins Testing in new research Laboratory

ON APRIL 28, the Heating and Cooling Division of the Union Asbestos & Rubber Co., Chicago, Ill., officially opened its new $100,000 research and

OIL BURNER IGNITION ASSEMBLIES for industrial and residential use

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

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CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

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KEYPORT • NEW JERSEY

development laboratory in Chicago and began testing heating and airconditioning equipment.

One of the features of the new laboratory is a 10 by 13 foot room in which any climatic condition, ranging from humid sub-tropical heat to dry sub-zero arctic air, can be maintained. Access to the room is provided by walk-in refrigerator type doors, and the floors, ceilings and walls are heavily insulated.

Under the general direction of Chief Engineer George Sykes, the laboratory will also be staffed by Dr. Shan Shang and Alexander Goldsmith.

Watts Regulator holds national sales Meeting

PEABODY HOUSE, Phillips Andover Academy, Andover, Mass., was the scene of the recent Watts Regulator Co.'s national sales meeting which saw 56 agents from the United States and Canada in attendance.

The Lawrence, Mass. firm introduced a series of new products and discussions were held on their potential market possibilities in the industrial and institutional field. Emphasis was placed on extra sales engineering efforts to sell merchandise.

American Heating sponsors Airtemp training School

A RECENT Chrysler Airtemp training school, sponsored by the American Heating Equipment Co., Seattle, Wash., provided instruction on year 'round airconditioning and was attended not only by dealers from local areas but from such distant points as Fairbanks, Alaska; Great Falls, Montana; and Salt Lake City, Utah.

The five-day meeting, under the direction of Earl J. Hedges, president of American Heating, featured talks by representatives from Airtemp's west coast sales area and the home office in Dayton, Ohio, on both installation and service of the company's equipment.

Eckhart enlarges Union, N. J., manufacturing Facilities

DUE TO AN INCREASE in sales volume, the Eckhart Manufacturing Co., Inc.,

CURE DRAFT TROUBLES

TJERNLUND

"Auto Draft" Inducer

No smokepipe obstruction, just cut a rectangular slot in smokepipe and band on.
Can be mounted horizontally or vertically.

Save *Fuel, Service Calls,* Customer Goodwill

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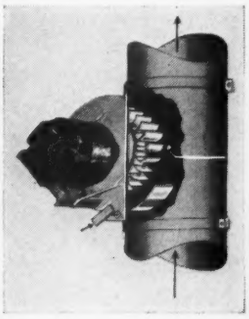

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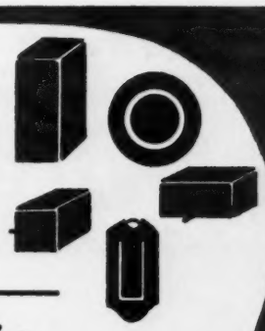

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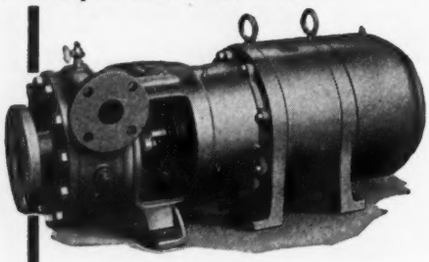

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Consult us now about *your* plant or truck equipment problems, or write for catalog.

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Complete Equipment for the Oil Trade

Try both-ON US!

Works in seconds!

Loosens Rusted Bolts
nuts . . . screws . . . parts
LIQUID WRENCH

A powerful blend of quick-acting solvents that frees "frozen" parts without breakage. Safe for all metals and alloys.

Makes joints LEAKPROOF!
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7 BASIC BLENDS

Makes all assemblies leakproof and pressure-tight. Easy to apply with brush-in-handle.

- NON-SOLVENT—WILL NOT HARDEN
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Write for FREE sample

TWO of the many famous SOLDER SEAL products available from your Automotive, Plumbing or Hardware wholesaler.

RADIATOR SPECIALTY COMPANY
Charlotte, N. C.

Union, N. J., has undertaken an enlargement program aimed at increasing production facilities.

When the program is completed, the company anticipates having a modern manufacturing plant devoted to the exclusive production of oilburners.

Airtemp Div. announces new executive training Program

TO AID in the maximum development and utilization of manpower, the Airtemp Division of Chrysler Corp., Dayton, Ohio, has inaugurated a series of executive development and management development programs, supervised by a new executive and management development department.

According to C. E. Buchholzer, president of Airtemp, the "new programs now being put into effect will be applicable to all categories of division management. That is, top-level executives, as well as foremen and other supervision groups, will be groomed via special training and guidance to take over more important, more vital assignments."

Directing the two Airtemp programs will be F. J. Laughna. R. C. Martin has been named management development coordinator.

Honeywell will construct new Factory building in Chicago

A MODERN, one story plant to be erected on a recently-acquired 10-acre site in the Morton Grove section of Chicago is planned by the Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

The new factory building, which will cost around $1,750,000, will consolidate Honeywell's manufacturing operations now carried on at various locations throughout the city.

Of steel and brick construction, the plant will provide 150,000 square feet of floor space for offices and for expanded engineering and manufacturing activities. At present, Honeywell's Chicago operation produces airconditioning and temperature controls for commercial and industrial installation.

Completion date for the factory is scheduled for November.

General Fittings Co. Factory moves to East Greenwich, R. I.

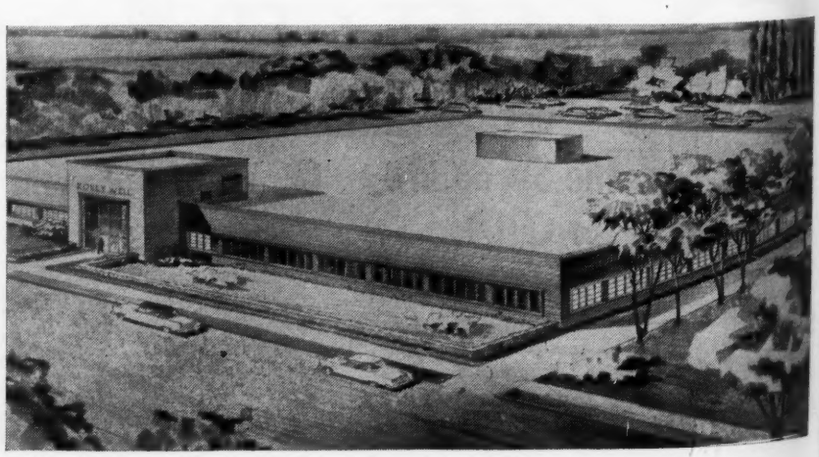
CHANGE IN ADDRESS from Providence, R. I. to East Greenwich, R. I. has been announced by General Fittings Co., manufacturers of tankless and indirect water heaters, fueloil heaters and heating specialties.

The new location, which provides considerably more space, will enable the company to improve its service, both from an economical standpoint as well as promptness.

Eureka Williams conducts Panels at sales Meetings

FEATURE of two sales staff meetings held by the Williams Division of Eureka Williams Co., New York, N. Y., recently, were a series of panel-type discussions on company operations, plans and objectives.

The discussions included a critique of Oil-O-Matic field operations, a review of "progress and performance" on the new, low pressure model R-160



burner, and a preview of plans for the spring and summer selling seasons.

The two meetings, one in Chicago and the other in New York, were conducted by Charles Branch, division manager.

The division also held a two-day conference for Oil-O-Matic distributors in 17 countries in conjunction with the Brussels Fair. The meetings, held in Brussels, Belgium, served to introduce a line of oilburners overseas.

Participating in the Brussels meetings were Herbert J. Allemang, executive vice president, A. H. Godefroi, SOCMA, M. P. Langdoc, export manager, and Vic Krouse, technical consultant.

Carrier completes dealer sales training Program

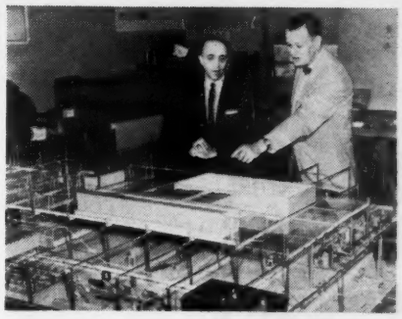
OVER THREE-THOUSAND DEALERS attended a recently-completed three month sales training program sponsored by the Unitary Equipment Div., Carrier Corp., Syracuse, N. Y.

Termed an outstanding success, the program had five goals: 1. To help newly established Carrier dealers by educating them in commercial and residential airconditioning; 2. Aid dealers to estimate and bid on installations by increasing product familiarity and technical know-how; 3. Benefit the customer through more efficient dealer servicing; 4. Attract new dealers through the benefits of such a program; and 5. Insure that Carrier distributors are equipped with complete engineering, product and sales information so that they can help the dealers find and sell prospects.

Jefferson Electric names Three to Board of Directors

SHAREHOLDERS of the Jefferson Electric Co., Bellwood, Ill., elected three new directors to the company's board at a recent stockholders meeting held at Bellwood.

The three are: Charles L. Coughlin, president of the Briggs and Stratton Corp.; Otis S. Mansell, president of the Celotex Corp.; and George Skakel, Jr., president of Great Lakes Carbon Corp.



A complete *and detailed model has been constructed by General Electric's Home Heating and Cooling Department, Bloomfield, N. J., of the interior working space of their new plant to be erected at Tyler, Texas. Examining the model are S. J. Levine, the new plant's general manager, and T. Sproule, the model's planner. Ground breaking ceremonies for the new plant will take place on May 30, with completion expected in the Fall of 1956.*

Other directors who were re-elected include Edward J. Bennan, president of Jefferson; Harry G. Blythe, president of the Wooster Division of the Borg-Warner Corp.; Louis J. Cross, general partner of Hornblower & Weeks; and W. Scott Minter, treasurer of Jefferson.

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NEW BEAUTY TREATMENT
for home heating
THERMOSTYLED
Classic
THERMOSTAT
by DETROIT CONTROLS
• New Beauty • Better Control
• Easier to Read • Simple to Install
See it Next Month in this Magazine!
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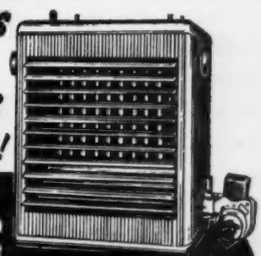
Only DELTA Makes All 3!



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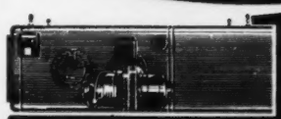
For lowest cost industrial heating. Ideal for factories, warehouses, commercial buildings, and locations requiring high velocity air delivery.



DELTA SUSPENDED-HORIZONTAL FURNACE
Especially shallow for narrow crawl spaces and attics. Larger models for offices, partitioned spaces, stores, gas stations.

DELTA GUN-TYPE FLOOR LEVEL FURNACE
Provides an extremely effective, yet extremely economical central heating system for small cellarless homes.
WRITE FOR THE FACTS!
YOU can beat all your competition with this profit-packed trio of fine heating equipment . . . made exclusively and only by DELTA!
DELTA HEATING CORPORATION, TRENTON 8, NEW JERSEY
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LOW 1955 PRICES

DRASTIC REDUCTIONS ON SMALL SIZES

Check LITE-CAST COMBUSTION CHAMBERS with your jobber!

MONOGRAM PRODUCTS CO., INC.

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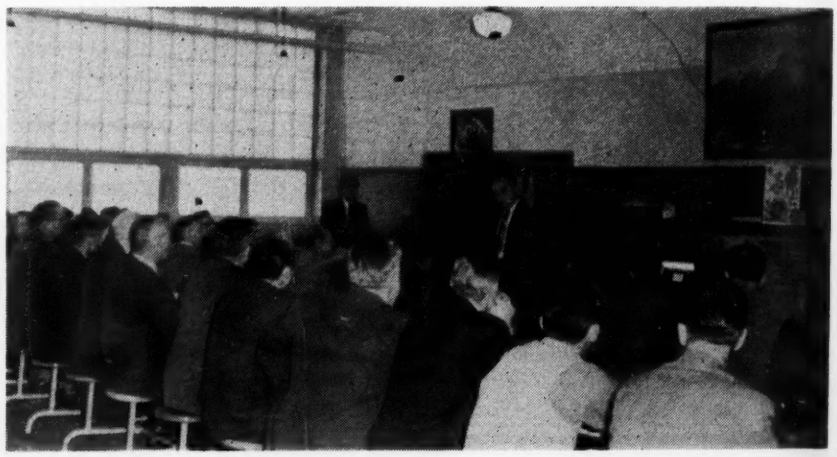
Heating Distributor sponsors oil heat School at Winnipeg

THE LARGEST OILHEATING SCHOOL ever held in Canada's prairie provinces was recently conducted at Winnipeg with 91 students registered. It was sponsored by the Heating Equipment and Supply Co., Winnipeg, wholesale distributors of heating accessories.

Grosney

Under the direction of Irvin A. Grosney, president of the firm, the school lasted three days, with four lectures a day on such subjects as general installations, duties of the workman, quality of workmanship, Webster fuel units, Sunstrand fuel units, Penn Minneapolis-Honeywell controls.

Upon completion of the school, a banquet was held at the St. Charles Hotel, Winnipeg. The following morning a written examination was given by the Department of Labor, Province of Manitoba for those who did not have a certificate of fitness. Of those taking the exam, 92% passed.



U. S. Machine holds seven Regional sales Meetings

MORE THAN 1,000 franchised dealers and their personnel attended seven regional meetings held early this spring by the U. S. Machine Division of Stewart-Warner Corp., Lebanon, Ind.

Based on the theme "For '55 It's Selling Drive," an expanded sales and product story was presented to the dealers at the meeting. Shown as new additions to the Winkler line were steel and cast-iron boilers of a new design, and a gas or oil series of furnaces in basement, counterflow and vertical models.

Demonstration kits for oil furnaces and showroom display materials were shown as new sales promotion tools, while new applications of both low

SOOTMASTER

Furnace Cleaner with Disposable Filter . . .

CLEANS EASIER, SAFER, FASTER!

- ✓ No Outside Bag
- ✓ No Dust Bag to Empty
- ✓ Disposable Filter for easy emptying of container
- ✓ Leak-proof Dust Filters
- ✓ Double Filter Protection
- ✓ Compact - Light in Weight
- ✓ Easy to Handle

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MASTER-CRAFT SUPPLY CO., INC. Dept. FO HAVERSTRAW, NEW YORK

and high pressure oilburners also were presented.

The dealers were told of price reductions in a number of existing models of heating equipment, and it was also announced that due to the success of the 1954 sales contest, a similar contest would be held this year.

Factory personnel who handled the meets were Claude A. Potts, general sales manager; Walter E. Blake, sales manager of dealer sales; Robert C. Hulse, merchandising manager; Norman J. Gill, advertising manager; Walter Leander, sales supervisor; and Al Wynkoop, publicity director.

Monsanto issues educational Facts on liquid Fertilizers

THE MERCHANDISING DIVISION, Monsanto Chemical Co., St. Louis, Mo., has issued a fact-filled brochure answering many of the most-asked questions about water-soluble fertilizers. Besides pointing out the advantages of the company's Folium formula it has much educational information for the fueloil dealer thinking about going into the liquid fertilizer business during the summer.

For instance it explains what a water-soluble fertilizer is, and points out that it is technically honest and accurate to say that if the fertilizer is applied consistently, on a regular feeding schedule, no other fertilizer is required. But it warns that to insist that customers use no dry fertilizers is to compete head-on wtih a deep-rooted home gardening habit.

It also warns that the customer must not expect one application in the middle of summer—when the lawn is beginning to show signs of wear—to work overnight magic.

Monsanto recommends that there be five appplications starting in March and repeated in April, May or early June, September, and October. It suggests that the dealer avoid the flat statement that one application will restore a lawn.

No fertilizer will cure all lawn ills, says Monsanto. For instance it will not eliminate weeds—although the thicker grass encouraged by fertilizer will tend to crowd them out. Nor will fertilizer alone cure lawn diseases or eliminate insects.

A dealer should clean his truck thoroughly because any oil residue will burn grass and shrubs, the brochure cautions. He should also clean out pipelines and fittings after the day's work to avoid the corrosive action on copper, bronze and brass.

Worthington premiers new 13-minute motion Picture

A NEW 13-minute sound motion picture in color entitled "The Case of the Hot Weather Blues," sponsored by the Worthington Corp., Harrison, N. J., was premiered recently at the company's exhibit room at 99 Park Ave., New York, N. Y., recently.

Designed as a non-commercial venture, the film shows homeowners and potential home builders benefits derived from airconditioning.

Prints of the film are available on loan to public groups from the corporation's Visual Aids Unit, Advertising and Sales Promotion Dept., Harrison, N. J.

New! RADIANT
DIRECT OIL FIRED
WATER HEATER
• For Homes, Apartments, Industries
• ASME Constructed
• Furnished with Combustion Chamber & Relief Valve
• Fuel Supply from Heating Unit Tank
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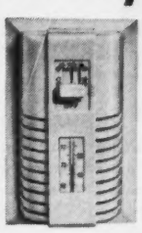
High and Low Pressure Oil Burners • Shell Head Burner • Winter Air Conditioner • Submersible Sump Pump • Utility Pump • Sump Pump
Write for complete literature on all Radiant products.
RADIANT
RADIANT UTILITIES CORP.
8817 18th Ave., Brooklyn 14, N. Y.

McCORKLE CONTROLS
FOR VAPORIZING OIL BURNERS
Satisfy dealers and customers



McCorkle Controls are backed by a record of 18 years of dependable service. Dealers endorse them because their rugged simple construction reduces service calls to a minimum. Customers appreciate them for their dependable, accurate operation.

Write today for literature and specifications to cover your particular requirements.

D. H. McCORKLE CO.
BOX E, STATION A • BERKELEY, CALIFORNIA

Ace Brushes
BOILER TUBE, FURNACE and CHIMNEY BRUSHES
for the OILHEATING and PLUMBING Trade
"Off the Shelf Service" • Leading Manufacturers of Industrial Brushes and Brooms for Hand or Power Use
• WIRE • BRISTLE • FIBRE • HAIR • NYLON
Write for Catalog or Name of your nearest jobber
ACE WIRE BRUSH CO.
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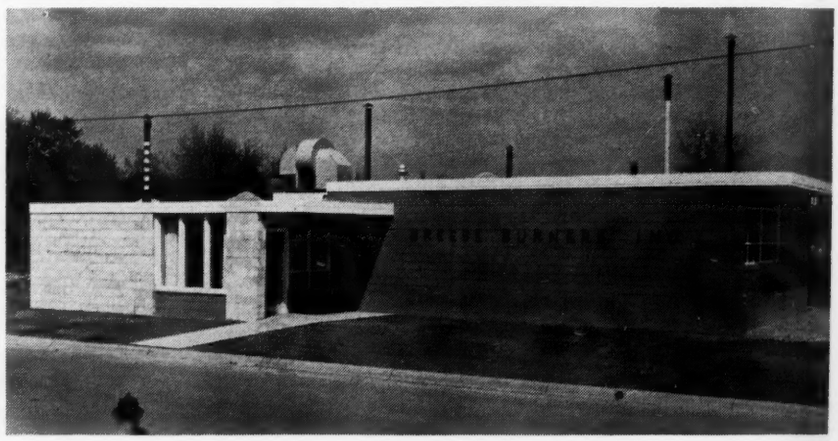
Allis-Chalmers purchases Mt. Hawley Farm Division

IN ORDER TO PROVIDE needed additional plant capacity for the Heating Equipment Division, made necessary by expanded business, Mt. Hawley Manufacturing Co., Peoria, Ill., has sold its Farm Equipment Division to Allis-Chalmers.

At the same time, it was announced that officers elected by the board were: R. E. Sullivan, vice-president in charge of sales; C. I. Duggins, secretary, and G. P. Reising, treasurer. The board of directors of Mt. Hawley is composed of W. A. Hale, president, the above named officers, and Virgil Watkins, production manager.

Breese erects new Building for Columbus, Ohio, Division

THE COLUMBUS, Ohio division of Breese Burners, Inc., Santa Fe, New Mexico, has been moved into new and enlarged modern quarters at 1356 Norton Ave., Columbus, under the



local direction of Richard H. Mueller, field engineer and William H. Gilmore, sales representative.

The building, unique in that it utilizes all products manufactured by Breese, will incorporate the sales, field engineering offices and laboratories under one roof.

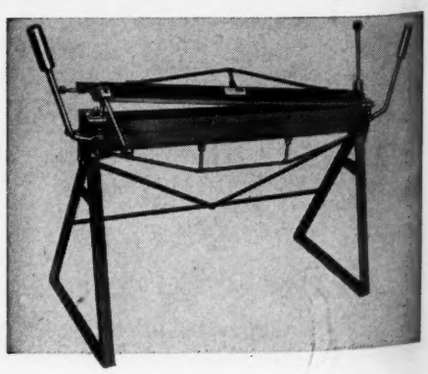
Due to the design of the new building, almost all types of domestic heating equipment can be tested or observed under actual heating conditions. The building has a laboratory which permits private testing for customers.

American-Standard changes Sunbeam Airconditioner Name

IN AN EFFORT to enable the airconditioning section to capitalize more fully on the corporation's trade name, the American Radiator & Standard Sanitary Corp., New York, N. Y., has changed the name of the Sunbeam Air Conditioner Division to the Air Conditioning Division of American-Standard.

According to T. W. McNeill, president of the division, concentration on

Invest Just $200.00 A New Low Price
F.O.B. Pgh., Pa.
and Make Your Own Ducts and Fittings!
with WEBCO the Portable Sheet Metal Bending Brake
With this one inexpensive tool, you can both form and lock ducts and fittings, and keep up to 35% more profits on warm air and cooling jobs by making the ductwork yourself. No change in quality or specifications—this is the same sturdy, precision tool that bends 20 gauge mild steel and that previously sold at a much higher price.



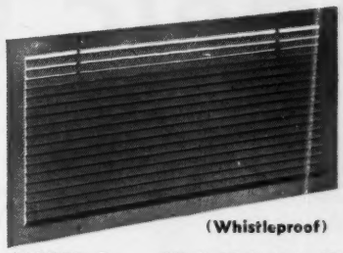
HALLMOR INC. — McMurray Road, Bridgeville, Pa.

This X-Ray View shows why *quickdraft* alone can claim . . .

Patents are pending on the exclusive features of *quickdraft* which produce all the draft you need without obstructing smokepipe or flue. And we mean no obstruction—ever!

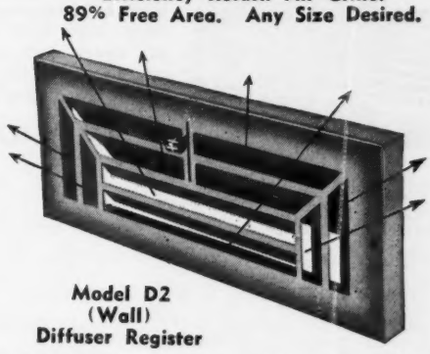
It's hard to believe, but true—the shorter the chimney, the better the draft with *quickdraft*. So, get all the facts. You'll want to use *quickdraft* on your next job. Write for complete literature, installation manual and name of nearest jobber, to Quickdraft Company, Dept. T, 1150 So. Erie Blvd., Hamilton, Ohio.

quickdraft
DRAFT CREATOR



(Whistleproof)

MODEL R — High Velocity, High Efficiency Return Air Grille. 89% Free Area. Any Size Desired.



Model D2 (Wall) Diffuser Register

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles. **Write for Catalog.**

National GRILLE AND REGISTER CO.
3169 East 80th Street Cleveland 4, Ohio

NO GLASSES NEEDED

TO READ OR SET THIS THERMOSTAT!

It's Handsome . . .
Easy to read
Easy to set
. . . "Thermostyled" to Complement Any Interior!

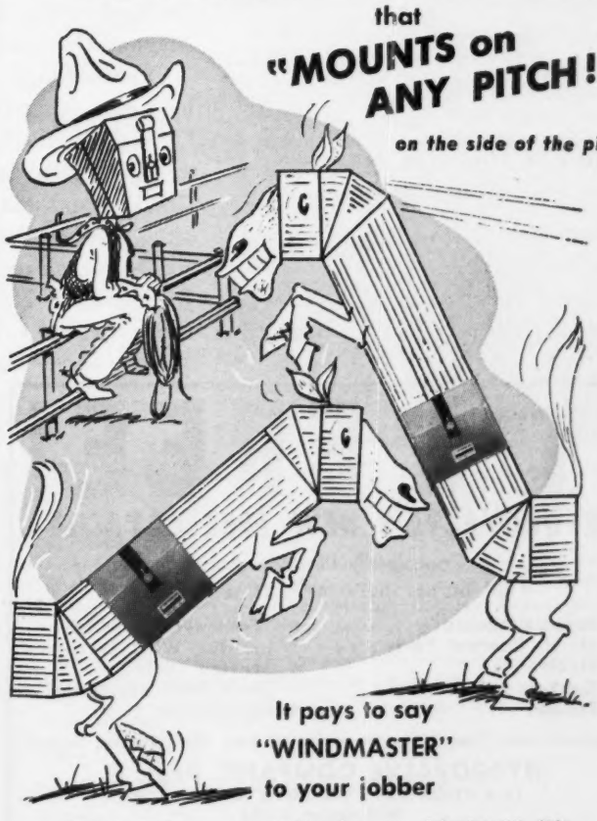
Watch for the *Classic* in This Magazine Next Month!

DETROIT CONTROLS CORPORATION
5900 TRUMBULL AVE., DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & STANDARD SANITARY Corporation

WINDMASTER the modern draft control that

"MOUNTS on ANY PITCH!"

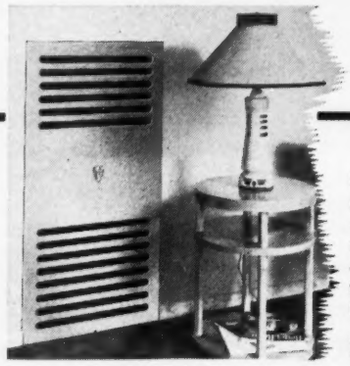
on the side of the pipe

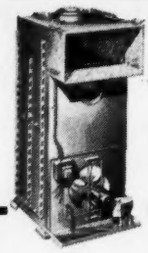


It pays to say "WINDMASTER" to your jobber

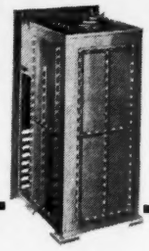
Windmaster Corp. 43 Vine St. Columbus 15, Ohio

TROPIC WALL
NO. II
OIL FURNACE





At left is front view with panel removed. Shows automatic fan and limit switch for maximum safety. At right is rear view of "Tropic Wall" Furnace.



KEEP YOUR CUSTOMERS SATISFIED!

SILENT SIOUX's new "Tropic Wall" will give them safe, clean, economical heat without loss of valuable "living room." With features such as these: Zero Clearance, Front Servicing, Forced Heat Circulation, Removable Burner, Optional Thermostatic Control, Built-in Clean Out Rod, Built-in Draft Regulator, you'll make more sales than ever before. 58,000 BTU output per hour. Width—22", Height—45", Depth—24½". Easy to install. "Tropic Wall" is equipped with leg levelers, and a 10" pressure type circulating fan. Shipping Weight—150#. Tested and listed by Underwriters Laboratories, Inc. For increased sales and profits, write today for literature.

SILENT SIOUX CORP. Dept. FO6 **ORANGE CITY, IOWA**

the more widely known "American-Standard" will facilitate expansion in the field of summer and winter air-conditioning. The change in name, it was pointed out, involves no change in the division's policies or activities.

Fedders-Quigan establishes sales Office in New York

THE HEATING DIVISION, Fedders-Quigan Corp., Trenton, N. J., has announced the establishment of a factory sales office serving the New York territory.

Located at 415 Lexington Ave., the new office replaces A. S. Granzen Associates following the death of Ganzen, and will handle all Fedders heating products. John D. Daly, branch manager, will direct the office.

Slant-Fin Radiator transfers office and plant Facilities

A TRANSFER to enlarged office and plant facilities at 87-49 130th St., Richmond Hill (Queens), N. Y., was completed recently by the Slant-Fin Radiator Corp., formerly of Brooklyn.

The new site includes complete tool-rooms and machine shops, fully-equipped press room, assembling equipment, paint shop and shipping department.

Mammoth Furnace Co. names regional Representatives

Paul Thompson and Co., 231 N. Third St., Philadelphia, named sales representative for furnaces and Commercial-aire direct fired space heaters of The Mammoth Furnace Co., St. Paul, Minn. Its territory will include the eastern half of Pennsylvania, the southern half of New Jersey, Maryland and Delaware.

Others named to represent Mammoth and their territories are: *Bel-Air Co.*, 30 Howells Rd., Belmont, Mass., in Maine, New Hampshire, Vermont, Rhode Island and part of Massachusetts; *Fred M. Dygert Co.*, 900 Monroe N.W., Grand Rapids, Mich., in Michigan; B. H. Nunnally, Skyline Drive, R.D. #4, Syracuse, N. Y., in Wayne, Ontario and Steuben Counties of New York.

Also, *Irvington Co.*, 1413 Hertel Ave., Buffalo, N. Y., in western New York and northwestern Pennsylvania; *Bernard M. Packtor Co.*, 95 Hemlock Rd., in Connecticut and the Massachusetts counties of Franklin, Hampshire and Hampden; *John L. Stewart Co.*, 524 Fairbanks Ave., Oakland, Calif.

Robert F. Black named board Chairman of White Motor Co.

ROBERT F. BLACK was elected recently to the newly-created position of chairman of the board and re-elected president and chief executive officer of the White Motor Co., Cleveland, O.

At the same time, vice presidents J. N. Bauman, V. W. Fries and E. S. Reddig were named executive vice-presidents and will act with Black as the operating committee.

Bauman, previously vice-president of sales, will function as head of the White Truck Division.

IT'S FREE!
HYDROVALVE'S NEW 1955 CATALOG

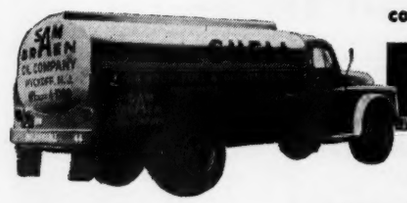
Completely Illustrated with Oil Burner Service Parts and Tools

- Fuel-Unit Parts
- M. H. Control Parts
- Electrodes
- Gaskets
- Bellows
- "Controlled Tension" Ignition Wire Terminals
- Service Tools
- Shaft Seal Assemblies
- Accessories

Available from Your Jobber or write for your FREE Catalog To-day.

HYDROVALVE COMPANY, Dept. F.
1319 UTICA AVE., BROOKLYN 3, NEW YORK
BUckminster 4-1330

Depend on DECKER BROTHERS
for TOP VALUE in 1955
completely* packaged
FUEL OIL TRUCKS



*Includes chassis, tank, pumping and metering equipment.

HAwthorne 7-2100-01-02 Write for Catalog FO
300 LINCOLN AVENUE, HAWTHORNE, N. J.

Harness Your Potential

(*Begins on page 57*)

sketch out what he wanted discussed.

Another almost indispensable tool was our monthly copy of FUELOIL & OIL HEAT. Each month the entire contents of the magazine were discussed from cover to cover. The industry figures were interesting to the boys and the sales and service tips were also interesting and profitable. The articles were read aloud and in effect the magazine was used as a text book.

Our fiscal year has now ended so perhaps it's interesting to try and evaluate the results.

During the previous year we sold 288 burners and units; this year we sold 423—an increase of 46.9%. There were 761 prospects turned in; therefore, we sold 55.6% of them. Industry figures indicate a decline of 7% from last year, so we held our own.

Individual sales ranged from $191 for a replacement burner with the customer's old burner and controls becoming our property to $18,189 for a Bunker "C" installation with "all the trimmings." Most of our sales, however, were in the $495 (our own Cunard Model A burner, with built-in electronic safety controls with one 200 imp. gal. tank) to $1,000 (units) bracket.

We are of the opinion that we would have sold close to 600 burners had we not been plagued with oil tanks corroding to a greater degree, we feel, than experienced elsewhere in Canada and the U. S. A. In a small town like Halifax.

Another factor also materially affected our sales—TV. Television finally came to our area, so that 30 days prior to mid-September and the ensuing months, which are traditionally the peak burner sales periods, were times when our prospects were buying TV sets rather than oilburners.

We have no great moans, however, there is no gas competition, and due to our geographical location and population there's not likely to be any. We get three squares a day, can manage an occasional trip to industry shows and conventions, and are just waiting for our competition to realize the futility of it all and quit.

Profits in Cooling

(*Begins on page 68*)

fairly standardized package. It includes one or more thermal type expansion valves on large systems, or perhaps capillary tube for small coils, plus the cooling coil probably with an air filtering section as well.

The standard thermostatic expansion valve is a modulating orifice through which liquid refrigerant flows to the cooling coil. The valve includes a bellows section connected through a capillary tube to a feeler bulb that is attached to the suction line from the cooling coil. Lack of refrigerant in the coil results in a super-heated condition at the coil outlet and the feeler bulb actuates the bellows to increase the flow of liquid refrigerant. Excessive refrigerant means lack of a super heat and results in closing the valve orifice.

On small coil sections, particularly those in window type cooling units, a capillary tube may be used as a device to expand liquid refrigerant. There are no moving parts. A small bore tube (perhaps 0.04" diameter) is in-

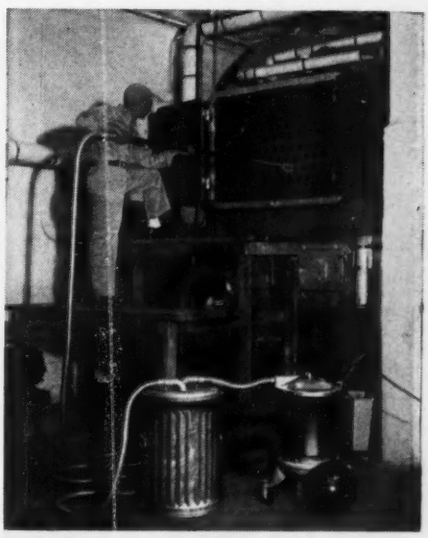
The "EXTRA" your customers will gladly buy!

Galongage

Has popular appeal for your customers because it reads in gallons.
For you, here's a quality gauge, conveniently packaged, easy to install in tight places. Costs less to ship, takes only ¼ the storage space required by most gauges. Underwriters' approved. Contact your distributor or write to—

APPLIED MECHANICS COMPANY
381 CONGRESS STREET, BOSTON, MASS.

Double power cuts costs, clean-up time



KENT

Shown here is a Kent Suction Deluxe Vacuum Cleaner in use at the Parkside Apartments, Bethesda, Maryland. Kent ends messy clean-up time, removes soot and increases boiler efficiency.

Double fans, double dust-bags, extra 27-gallon dirt tank... all increase boiler cleaning efficiency — cut down heat losses due to accumulated soot in boiler tubes. Modern building management *demands* Kent service for boiler cleaning at frequent intervals.

MAIL TODAY

The Kent Company, Inc., 434 Canal St., Rome, N. Y.
I want to eliminate costly soot in my boilers. Send complete details on Kent equipment.

Name .....
Firm Name .....
Address .....
City ..... State .....

stalled in fixed lengths of 5 ft. or as much as 20 ft. This restriction creates the pressure drop that must be maintained between the high side and the low side. Obviously, the size bore, the length of tube and the proportions of the rest of the system must be in balance and each component is critical. Therefore, small complete package refrigeration assemblies may employ this simple device but larger systems are far more flexible and conveniently serviced with the type of expansion valve described previously.

The cooling coil is a series of thin fins securely attached to one or a group of coil circuits. Multi-circuited coils have the lowest pressure drop for refrigerant, and are considered most efficient. The amount of total surface, the spacing between the fins, the ratio of fin surface to tube surface and the depth of the coil in the direction of air flow are important factors. They affect the price of the coil, the resistance to air flow, which in turn affects quantity of air circulated through the coil, and the cooling effect which may be obtained for a minimum temperature difference between the refrigerant and the air that passes over the coil.

It is important to remember that compressor efficiency and compressor output will increase as the suction temperature is increased. However, for a given temperature of air leaving a cooling coil, a higher suction temperature requires more surface and a lower suction temperature means more cooling effect from the same surface.

It always is desirable for the balance point to be low enough so that some moisture will be removed as the air is cooled but suction should not be so low that frost will accumulate on the coils. This will restrict air flow and it could mean objectionable cold drafts in the occupied spaces.

Automatic controls for residential cooling units are standard thermostats, usually with a winter/summer changeover switch to operate a manual or automatic damper and change the air circuit from heating to cooling chamber.

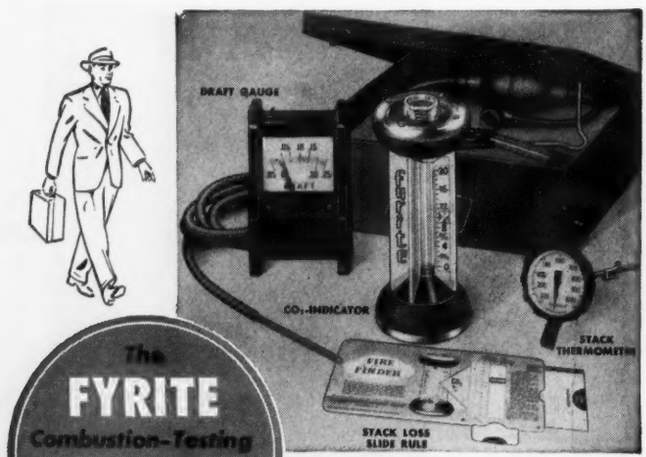
Other controls are the standard devices used with heating systems and in addition a high pressure cut-out to stop the refrigerating compressor in the event of excessive pressures on the high side. This pressurestat is of the automatic reset type.

For water cooled condensers there also must be a flow regulating valve which needs to be adjusted to provide reasonable quantity of circulation while maintaining the proper head pressure.

The article to follow in this series will cover sizing of cooling components and a discussion on how to figure cost of operation.

❖

H. V. King, formerly with the Chicago office of the Wheelco Instruments Div., Barber-Colman Co., Rockford, Ill., has been transferred to the Philadelphia office. *Harold Sieber* has joined the Philadelphia service organization. *D. Combellack,* formerly with the Detroit Wheelco office, is now located at the Atlanta, Ga., office, and *Henry Hoffman,* previously with the Cleveland branch office, will now manage the new Columbus, O. subbranch office.



The FYRITE Combustion-Testing MASTER KIT

Helps You Build Profits and Prestige

Combustion-testing builds business in two ways. First, it boosts service profits because with instruments any service job can be done in less time and by less experienced men. Second, it brings in new equipment business by spotting fuel-wasting burners through a dramatic "fuel-saving" check-up which will convince even the most skeptical customer of the need for replacement or modernization.

Keying your sales and service to fuel conservation will work wonders for you. It will establish you as a "fuel-saving" expert and help you corner an even larger share of immediate and future sales in your community.

The MASTER KIT shown above will appeal particularly to those who want professional implements of highest quality and reliability, as well as of impressive display. The cost of the kit is very small compared to the sales and service profits it will bring you.

Ask your Jobber or Write for Bulletin 733

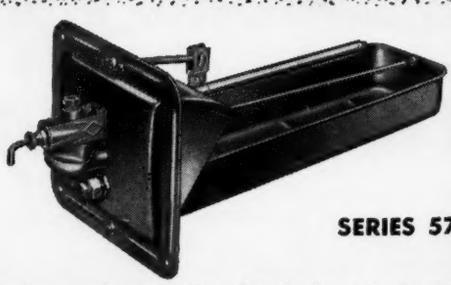
BACHARACH Industrial Instrument Co.

COMPLETELY ASSEMBLED

Vaporite

AUTOMATIC HUMIDIFIER

OFFERS QUICKEST — FASTEST INSTALLATION
ADJUSTABLE TO SLOPING OR STRAIGHT BONNET FURNACES



SERIES 577

Stainless steel construction. Drip-feed puts just enough water in pan for fastest vaporization. Eliminates scum . . . no stagnant water pan.

Pre-assembly cuts labor time and costs. To install simply cut hole in plenum wall, slip VAPORITE in just as it comes from shipping package.

Get complete information. Write FO-6

Automatic Humidifier Co.
CEDAR FALLS, IOWA

Modern Merchandising

(*Begins on page 71*)

cut, but he presented a capsule program which has been successful in the continuing growth of Valley Oil. It begins with "A constant, consistent program of advertising to keep prospects and customers aware of the equipment and services you offer. Supplement this with a complete kit for your salesmen to sell the benefits of oilheating and your equipment specifically in a positive manner and participate in local association activity, which contributes so much to maintaining oilheating as a major fuel in any area.

"Keep your employees informed about gas competition, what it means to the company that employs them and what it means to them personally. And, let your customers know also that they are heating with the best, cleanest, most modern fuel. They exercise freedom of choice about the equipment they buy and who supplies them with fueloil and enjoy the other oilheating benefits that you can localize to fit your own territory."

Even Valley Oil's cleaning crews get special attention. When they arrive at a house, Briggs pointed out, they have to be clean. And they have to look the same way when they leave the job. It's only when they're in the cellar that they don shop coats. They have been briefed on how to clean boilers and furnaces, they work from a check sheet and leave one copy with the customer as a record of what has been done.

Briggs said, "We emphasize that the vacuum cleaning job is equivalent to the 'breakfast in bed' routine. It shouldn't bother or inconvenience anybody, while at the same time the results should make people feel better, in this case knowing that their heating plant has been cleaned carefully and put in shape for another heating season."

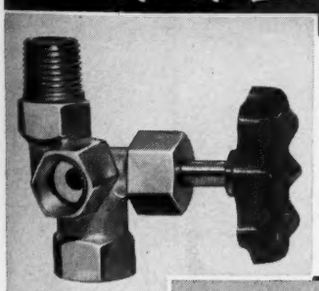
Clean-ups, incidentally, are included in a $24.50 service contract, which about 1,700 Valley Oil customers have bought. Each year the whole sales force sells these contracts in an organization campaign, starting each day with a breakfast meeting. The campaign lasts a week and this year as a result 342 new service contracts were added. The old one are automatically renewable.

In addition 400 new budget accounts were added this spring to increase this facility to about 12% of total customers. About 150 of these were picked up during the service contract campaign.

In summary, Briggs observed that among Valley Oil's employees there are more 15 and 20 year people than newcomers. As a matter of fact, at the company's "family party" held each Fall, the veterans receive recognition with lapel buttons and gifts for their terms of service.

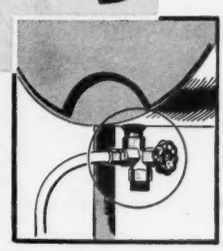
At the same time, though, Briggs continued "We have a bunch of alert, ambitious, young workers who provide a spark whose effect penetrates all operations. This is so well balanced by the deliberate, thorough work performed by the veterans that I think we've achieved the happy medium that combines the two elements that truly contribute to modern merchandising."

A Sturdier Oil Tank Valve At A Lower Price!



1-Piece Heavy FORGED BRASS

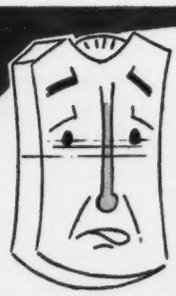
No soldered joints to crack or break out. The most sensible valve made for maximum strength and easy installation on bottom outlet oil tanks. Needle type valve with metal to metal seat. Nipple and cap can be installed below valve for sediment chamber. The Ehco valve costs you LESS, but gives you so much more! If not available from your jobber, write us for complete information.



Handier! Stronger! Durable!

EhCo HEATING SPECIALTIES

P. O. Box 6206, Indianapolis 24, Indiana



OOPS! HERE COMES THE *Classic*

Guess I'm Done for!

See the ALL NEW *Classic* thermostat in this Magazine Next Month

Handsome Functional Design
Easier to Read and Set
Adds to the Value of any home!

DETROIT CONTROLS CORPORATION
5900 TRUMBULL AVE., DETROIT 8, MICHIGAN
Division of AMERICAN RADIATOR & STANDARD SANITARY Corporation

ESPA Meeting

(*Begins on page 38*)

lic; it hasn't been sold by the oil industry. We must realize," he declared, "that our selling campaigns have not for the most part created a market, but have just sliced up one already made for us. If we can shed our old concept of selling and adopt a new one geared to this realization, we can then attack the question of how to expand the market."

"Constructive industry thinking and planning now on expanding our petroleum market will pay off later," the Sinclair vice president concluded, "when the chips—and the demand—are down."

Other speakers during the two day session who discussed fueloil's future included Albert J. McIntosh, chief economist, Socony Mobile Oil Co., Inc., New York and Robert Gray, Editor, FUELOIL & OIL HEAT.

McIntosh, considering "Today's Business Outlook," forecast that by 1959 there is "a good probability there will be three and a half times as many oilheated homes as there were in 1946," in spite of natural gas.

"We feel," the Socony economist stated, "that oil consumption for these burners will be almost three times as great. The lower increase in consumption reflects the greater efficiency of the new burners and the relatively smaller homes built since the end of World War II."

Gray outlined the functions of Oilheating Market Reports, a recently-established analysis unit which will study various cities or regions being considered for promotional programs. It is to gather and reproduce effective advertising materials from all sections of the nation for distribution to interested groups as an aid for the local unit's own promotion program.

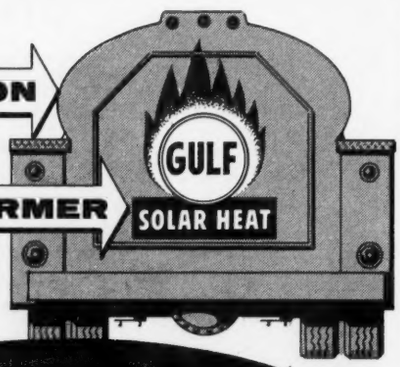
The new office is sponsored by both major oil companies and terminal operators in an effort to coordinate information on a centralized basis.

The ESPA group also heard addresses by Frederick H. Meeder, chairman, New York State OIIC, on "The Jobber and the OIIC"; W. J. Loufman, president, Fleet-Wing Corp., Cleveland, Ohio, on "Balancing a Jobber's Business"; George F. Sawyer, vice-president, First National Bank of Boston, on "How to Finance Jobber Expansion"; and S. C. Bartlett, vice president in charge of Domestic Sales, The Texas Co., New York, N. Y., who spoke at the banquet on "Futures Unlimited."

Attendance at the meeting was more than 300. New officers elected for this New York State group are as follows: Frank D. Bertch, Webaco Oil Co., Webster, president; Richmond F. Meyer, Mid-Hudson Oil Co., Poughkeepsie, 1st vice-president; George L. Savory, Savory Oil Co., Binghamton, 2nd vice-president; Harry D. Cool, George Hall Corp., Ogdensburg, 3rd vice-president; and H. Halsted Park, Jr., H. H. Park, Inc., Katona; 4th vice-president. Re-elected as treasurer was E. C. Drake, Drake and Mills Oil Co., Inc., Syracuse, as secretary, Harry Hilts, and as sergeant at arms, Ken Campbell. Bruce Wemett was added to the board of directors.

Attention...Heating Oil Dealers!

Hitch your SALES WAGON to a STAR PERFORMER



GULF SOLAR HEAT

. . . the popular brand heating oil preferred in more than a million homes.

The proof is in the profits they're enjoying!

● Now is the time to join the growing number of resellers who have switched to marketing this top-quality product for greater sales volume and unparalleled customer satisfaction.

Gulf Oil Corporation • Gulf Refining Company

new!

KECO

Remote-Reading TANK GAUGE

For Oil and Gasoline

➡ Versatile!

➡ Attractively Priced!

➡ Economical to Handle!

➡ Minimum Dealer Inventory!

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